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LIBRARY



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UNIVERSAL
LIBRARY

How to Plan a
Library Building
for Library Work

Prelude

Every public building should express, with dignity
Its individual type, use, place, and era.

A library is a prominent public building
As practical and technical as a schoolhouse;
A workshop for the future, not a relic of the past.
Seldom rich enough for its needs, it abhors waste.
Change and growth will soon supplant it.
Build it for use, not show; for now, not for ever:—
Tastefully, tactfully, thriftily, thoroughly.

To plan it, find an able librarian,
To construct it, get a skillful architect,
To control both, choose a wise committee.
These three, by patient study and debate,
Can satisfy taste without sacrificing use—
Achieving complete and felicitous success.

HOW TO PLAN A LIBRARY BUILDING FOR LIBRARY WORK

By CHARLES C. SOULE

A.B. Harv. 1862

Firmitas, Utilitas, Venustas

—VITRUVIUS DE ARCHITECTURA

BOSTON
THE BOSTON BOOK COMPANY
1912

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BY CHARLES C. SOULE

The Riverside Press, Brookline, Boston, Mass.

To
The Architect
who is the Librarian's best friend
when they plan together
a sound, useful and beautiful building
this volume is inscribed

EDITORIAL PREFACE

Of the author of this volume it was said by President Hill at the 1906 A. L. A. Conference, "he has given the subject of Library Architecture more thought and attention, probably, than any other member."

Mr. Soule is well known to older librarians. To introduce him to a younger generation and to architects, we would say that although he is a publisher and bookseller, and not professionally a librarian, he has had an effective training in library science. He joined the American Library Association in 1879, became at once a working member, has attended twenty Conferences, and has been elected to office, as follows:

1888-1899 — Trustee of the Brookline (Mass.) Public Library.

1890-1908 — Publishing Board, A. L. A.

1890 — Vice-president.

1893-1896, 1900-1905 — Member of the Council.

1894-1906 — Trustee Endowment Fund.

1906-1912 — Member of the Institute.

In 1890, when a prominent trustee had been quoted as saying, "it was no use consulting librarians about building, for no two of them

agree on any one point," he wrote, and the 1890 Conference unanimously adopted, "Points of Agreement among Librarians on Library Architecture."

In 1892 he published in the Boston press an exhaustive series of nine letters, taking the side of the librarians of the country against what they thought to be radical errors in the management and building of the Boston Public Library.

In 1901 he wrote the article "Library," for Sturgis's Dictionary of Architecture.

In 1902 he wrote the A. L. A. tract on "Library Rooms and Buildings."

For forty active years in business as a bookseller, he has handled and issued books.

For over thirty years of membership in the A. L. A. he has been intimate with leading librarians.

In the Boston controversy, he felt obliged to investigate thoroughly every point he criticized on behalf of the librarians.

When elected as a trustee in Brookline he found a very conservative board at the time the new developments of library progress were slowly gaining ground, and had to go to the bottom of every new method before the board could be persuaded to try it.

During the last five years Mr. Soule has frequently been called on as an expert, and has been through all the detail of building problems of several different grades.

All this educated him in such a school of experience that Mr. Dewey thus spoke of him at one of the A. L. A. Conferences: "When people ask who are the most active and efficient librarians in America we are almost sure to name two or three men who are not librarians at all; for instance, R. R. Bowker and C. C. Soule."

After such experience, we can commend what the author has to say, to respectful attention.

Illustrations have been suggested, but have not been included in this volume lest they should increase the bulk and price too much. If they are asked for, we will issue a separate volume of illustrative plates.

FREDERICK W. FAXON,
Editor Useful Reference Series.

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AUTHOR'S PREFACE

On being asked to write on "Library Architecture" for this series I hesitated, knowing little about the subject except as applied to the insides of libraries. But on this limited branch I have had some experience which I am willing to embody under the narrower title finally chosen, for the benefit of librarians, architects, and building committees. I even venture to hope some chapters may get to the notice of trustees, donors, and other citizens interested in libraries.

The themes of this volume are:

Preëminence of utility over display.

The practical nature of library work.

The importance and variety of its details.

Their differentiation from other kinds of work.

The vital need of consulting library experts.

The treatment adopted is, to cover every point and touch on every detail involved in building a large library of any class. I hope that readers interested in lesser libraries, even those of small grades, may be able to pick out hints to help them, or at least to look ahead to growth and larger problems yet to come.

I have not undertaken to discuss methods of library work, and only allude to them so far as they affect construction. Nor have I undertaken to recommend specific makes of furniture or fittings, although I have felt free in a few instances to suggest principles which should govern selection.

I have not trusted entirely to experience or to advice received from librarians and architects; but wishing to treat thoroughly so momentous a subject, I have spent six months in search through all authorities in England as well as in America, including back volumes of the library periodicals. I did not expect to get much help from England, where methods differ from ours, but I find the transatlantic writers are so thoroughly in accord with us as to the need of expert advice in planning, that I have cited their views copiously.

To all these sources, and to countless friends, I am so indebted for suggestions and advice that I look on myself as an editor of professional opinion, rather than as an original author. But I assume responsibility, while rendering sincere thanks to all authorities quoted or unquoted.

Within the limit of one volume it has been possible only to sketch principles without describing details under every subject as in a manual. I have been asked to illustrate this volume with views and plans, but the publishers

find that this would double its size and price. They have therefore decided to wait and test the actual demand by inquiry. If enough purchasers wish a second volume, one will be issued.

For my general principles I expect endorsement from all librarians. As to details, I do not ask so much for endorsement as for criticism — not mere fault-finding, but helpful constructive criticism, pointing out something better than is herein advocated. If interest and discussion are stimulated, and library science is thereby in any degree advanced, I shall feel that my work has not been wasted.

CHARLES C. SOULE.

BROOKLINE, MASS.

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xvii

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CONTENTS

	Page
Book A — Introduction	1
EVOLUTION OF LIBRARY BUILDING	3
The Dawn of History	3
Ancient History	4
Mediæval History	6
Modern History	10
Our Own Era	13
Forecasting the Years	16
The Present	16
The Next Quarter Century	16
<i>Firmitas, Utilitas, Venustas</i>	19
<i>Firmitas</i>	20
<i>Utilitas</i>	21
<i>Venustas</i>	22
Is There an Irrepressible Conflict?	25
Library Science	27
Architecture	29
Where does the Library Come in?	31
What Conflict is Possible?	32
What Contest is Likely?	34
Where Lies the Blame?	35
Grades and Classes	36
Small Library Buildings	38
Minimum	38
Small	42
Moderate and Medium Libraries	44
Very Large Buildings	45
CLASSES OF LIBRARIES	47
Private and Club	47
Proprietary, Institutional	49
Professional	51

CONTENTS

	Page
Scientific	51
Medical	52
Theological	52
Special and Business	52
Law	54
Government and Historical	56
National	56
State.....	56
Historical.....	58
Antiquarian.....	59
Educational.....	60
School	60
College	61
University	61
Public.....	65
Central.....	65
Branch	67
Suburban	70
Exceptional Cases	71
Middle of Blocks	71
Top Floors	71
With Museums or Art Galleries	72
Alterations and Enlargements	73
Altering New Buildings	74
 Book B — Principles	77
Spirit of Planning	79
Taste, Tact, Thrift, Thoroughness	81
Economy Paramount	83
Economy of Expert Advice	87
Problem Always New	89
Plan Inside First	90
Never Copy Blindly	92
Study other Libraries	94
The Life of a Library Building	97

CONTENTS

xxi

	Page
The Time to Build.....	99
Size and Cost	102
Cutting down Cost	104
Open Access	107
Light, Warmth, Fresh Air	108
Faults to Look For	109
Frankness among Librarians	110
Service and Supervision	112
Decoration, Ornament	114
Architectural Styles	117
Amateurs Dangerous	120
Dryrot Deadening	121
 Book C — Personnel	123
The Public	125
Place of the Library Among Buildings.....	128
The Donor	130
The Institution.....	133
The Trustees.....	134
The Building Committee	136
Free Advice.....	137
The Local Librarian as an Expert	141
The Library Adviser	143
Selecting an Architect	146
A Word to the Architect	150
Which Should Prevail?	152
Architectural Competitions	154
Judges of Competition	158
Order of Work	159
 Book D — Features	163
Site	165
Provision for Growth	168
Exterior	169
Interior	169
Limitations	170

	Page	
Approaches, Entrances	172	
Halls and Passages	175	
Stairs	176	
Stories and Rooms	179	
Walls; Ceilings; Partitions	183	
Floors and Floor Coverings	185	
Roofs; Domes	187	
Arcades; Galleries	189	
Light	191	
Light, Natural	193	
Windows	196	
Light, Artificial	201	
Indirect Lighting	205	
Heating and Ventilation	209	
Plumbing, Drains, Sewers	215	
Cleanliness	217	
Protection from Enemies	219	
Fireproof Vaults	223	
Central Spaces	224	
Lifts and Elevators	228	
Mechanical Carriers	230	
Telephones and Tubes	232	
Book E — Departments and Rooms	233	
PART I.—ADMINISTRATION ROOMS		235
Trustees	237	
Librarian	239	
Other Staff Quarters	241	
Public Waiting	242	
Stenographers	243	
Place for Catalog Cases	244	
Cataloguing Rooms	246	
Delivery	248	
Janitor	251	
Binding and Printing	253	
Branch Service	256	

CONTENTS

xxiii

	Page
Comfort	257
Sanitary Facilities	259
Vehicles	260
 PART II.—BOOK STORAGE..... 261	
Shelving, generally.....	262
Shelves in Reading Rooms	269
Wall-shelving	271
Floor Cases	273
Radial Cases	274
Shelf Capacity	277
The Poole Plan.....	278
Stacks generally	280
The Stack Shell	283
Use of Stack by Readers	284
Carrels	286
Stack Details	288
Stack Lighting	292
Stack Windows.....	294
True	294
Defective	295
False.....	295
Stack Heating and Ventilation	296
Stacks Up and Down	297
Stack Towers	297
Stack Capacity	298
Sliding Cases.....	299
 PART III.—READERS' ROOMS 305	
Reading generally	305
Serious Reading	306
Reference.....	310
Light Reading	313
Half-hour Reading	313
Periodicals	314
Newspapers	316

CONTENTS

	Page
Children.....	318
Women	320
The Blind	321
Special Rooms	322
Local Literature	323
Study	324
Classes	324
Patents, etc.	326
Public Documents	327
Duplicates	328
Art: Prints, etc.	329
Maps	331
Music	331
Education	332
Lectures	333
Exhibitions	334
Pamphlets	335
Bound Periodicals	335
Collections	337
Information.....	338
Conversation.....	338
Unassigned	339
PART IV.—FURNITURE AND EQUIPMENT ..	341
Tables	344
Chairs	346
Delivery Desks	348
Catalog Cases	350
Bulletin Boards	352
Other Fittings.....	354
Book F—Appendix ..	355
Concrete Examples	357
N. Y. Public Library. Terms of Competition	359
Brooklyn. Suggestions to Architect.....	367
Index ..	393

A.

INTRODUCTION

In this Book

*A cursory glance through history fails to
throw much light on planning
a modern library.*

*The motto of this work is elucidated.
The possibility of differences between
librarian and architect
is discussed.*

*And brief remarks are made about
grades and kinds of libraries.*

A. INTRODUCTION

EVOLUTION OF LIBRARY BUILDING

[For the first chapters of this book, I am largely indebted to an interesting and scholarly volume by John Willis Clark, entitled "The Care of Books," published in the year 1901 at Cambridge, Eng. I am emboldened to quote from it by noting how much later books and cyclopedias rely on it as their chief authority, and I commend to all readers both text and illustrations of this fascinating work.]

The Dawn of History

No precedents of buildings or fixtures loom out of the farthest past. Archæological excavations have found relics of libraries in early ruins, libraries of baked clay tablets, evidently once housed in separate rooms on upper stories of palaces or temples. This literature must have seemed imperishable. There were no fading inks, no crumbling paper, no danger from moisture or worms. But an older foe, still threatening libraries, lurked in that brick era of literature. Fire, both worshiped and feared, was finally fatal. Fire following conquest attacked the oldest libraries and dropped them in shattered fragments into prehistoric cellars, to lie for centuries awaiting exhumation. But even as now resurrected, they tell no tales of their housing or shelving or circulation. It would seem hopeless to grope among these shards for lessons in library science. And yet Dr. Richard Garnett¹ deduced from an Assyrian hexagonal book tablet the idea of hexagonal bookcases for the British Museum.

¹ Essays in Libr. p. 280.

Ancient History

In the early days of Egypt, Greece, and Rome, libraries of papyrus and parchment rolls, stored on shelves, in pigeonholes and in chests, were collected, at first by sovereigns, then by nobles, then by scholars. For centuries they occupied rooms in palaces and in temples. These rooms were only places of storage. Other rooms, or oftener colonnades, served for reading. The distinction between book rooms and reading rooms thus appeared at an early date.

The first mention of a separate library building is made in Egypt in the time of Ptolemy Philadelphus, the third century B.C. Two centuries before, Pisistratus, in Greece, had established a public library, whether or no in a house of its own is not noted. About 40 B.C., Asinius Pollio seems to have built the first library building in Rome. Augustus soon built two more, and thereafter public libraries and private library rooms abounded. In the fourth century A.D. there were twenty-eight "public libraries" in Rome. Although these were undoubtedly, while "public," used mainly by scholars, having few of the functions which so highly diversify and differentiate modern public libraries, their buildings must have begun to assume some common arrangement which would tend to constitute a type. I am unable to reproduce, however, any clear picture of the architecture of these first buildings.

As to fixtures, Mr. Clark sums up a chapter:¹ "Unfortunately no enthusiast of those distant times has handed down to us a complete description of his library,

¹ p. 47.

and we are obliged to take a detail from one account, and a detail from another, and so piece the picture together for ourselves. What I may call the pigeon-hole system, suitable for rolls only, was replaced by presses which could contain rolls if required, but were especially designed for codices (the first phase of parchment, in the modern book form). These presses were sometimes plain, sometimes richly ornamented. The floor, the walls, the roof were also decorated. As the books were hidden in the presses, the library note was struck by numerous inscriptions, and by busts and portraits of authors."

This Roman conception of a library prevailed during the dark ages and has survived to our own time in its most sumptuous form, embodied in the Vatican library, whose interior has so often been represented in photographs and engravings.

With the close of the western empire, in A.D. 476, the ancient era of libraries may be said also to close without any lessons to us as to building.

Mediæval History

Thus far libraries were gathered and cared for by monarchs, princes, or prominent citizens. With the growth of Christianity literature fell to the care of the ecclesiastics. Their earliest collection, of which record remains, was shelved in the apse of a church. About A.D. 300, monastic communities began to cherish church literature. Existing records all indicate that cloisters were the first Christian libraries, perhaps because all the monks could assemble there. What few precious manuscript volumes the laborious brothers had fashioned, with others given or bought, were stored on shelves or in "presses" on the inner walls. The readers either took the books to their cells, or read them by the light of the windows in the outer wall. There were the reading room, the book room, and the lending room, all in one long, well-lighted cloister. Later, as more manuscripts accumulated, they were stored at first in niches in the wall, then in adjacent closets or small windowless rooms. Readers still studied by the best light. To follow Clark's quotation:¹ "On the north syde of the Cloister (at Durham) in every window were . . . Pews or Carrels where every Monk studyed upon his books. And in every Carrel was a deske to lye their booke on."

Elsewhere it is explained that each window was in three parts, with a carrel from one stanchell of the window to another.

This use of windows suggested to me a new convenience for research in our modern "stack," which is described in a later chapter as the "stack carrel."²

¹ p. 21.

² See p. 298.

The growth of libraries slowly followed the development of monastic orders. The systematic care and use of books began with the precepts of S. Benedict in the sixth century, followed by similar rules in other brotherhoods. At the same time secular libraries and library buildings were devastated by the barbarians, while the Arabs, who developed large libraries, appeared to have housed them in mosques, so that library building science slumbered through the Dark Ages.

In the sixth and seventh centuries learning followed the first steps of Christianity into the British Isles. The earliest English "library movement" began in the monasteries of Ireland and Great Britain.

From that era onward, libraries all over Christianized Europe grew with the prosperity of religious brotherhoods. Of progress toward building, however, there is little record until the Cistercians moved theirs from the cloisters to other rooms in their monasteries, although some use of cloisters elsewhere lingered until the beginning of the seventeenth century. These rooms were at first directly over the cloisters, where alcoves first appeared, on the window side only. Still later libraries were assigned to the upper stories of separate buildings, the first put to this use since the time of the Cæsars in Rome.

These first mediæval libraries, of which several pictures are preserved, send to us the precedent of ample and aptly applied daylight admitted through long windows directly into each alcove. The exteriors remind us of our stack rooms. This arrangement of library rooms passed by imitation in the fourteenth and fifteenth centuries from the monasteries to the colleges, and still survives in the older libraries of Oxford and Cambridge, — for instance, Merton College, a long, narrow room with bookcases between the windows, at right angles with the walls, forming well-lighted alcoves.

All of the earliest library rooms were long and narrow. Clark has preserved the measurements of several thus:—

A.D. 1289. Zutphen (Holland): A solid building separated from others (in case of fire): 120 feet long, 36 feet broad: 19 uniform windows east and west, "that plenty of daylight might fall upon the desks and fill the whole length and breadth of the library."

A.D. 1422. The Franciscan House in London, "Christ's Hospital" (the first building in England built expressly for a library?) founded by Sir Richard Whittington; 120 feet long by 31 feet broad, with 28 desks and 28 double settles.

A.D. 1508. At Canterbury: the library over the Prior's Chapel was 60 feet long by 20 feet broad, and had 16 bookcases, each 4 shelves high.

A.D. 1517. At Clairvaux: in the cloister are 14 studies, where the monks write and study, and over it the new library, 180 feet long by 17 wide (probably this narrowness followed the shape of the cloister) with 48 benches, "excellently lighted on both sides by large windows."

It will be noted that these bookshelves were about four feet "on centers," and that great emphasis was laid on ample daylight.

From the thirteenth century comes this warning for us—"the press in which books are kept ought to be lined inside with wood that the damp of the walls may not moisten or stain them," which is singularly like a caution in a recent American manual against leaving unpainted brick walls at the back of wall cases.

It seems singular that wall shelving, which was certainly used in Assyrian libraries and in the classical period, disappears in the monkish era and yields to "presses" or closed bookcases; to appear as a new device in the library of the Escorial in Spain in the year 1583.

Sir Christopher Wren thought so much of this feature that he followed it in Trinity College (Cambridge) library in 1695, saying, "The disposition of the shelves both along the walls and breaking out from the walls must prove very convenient and gracefull: A little square table in each cell with two seats."

The fifteenth century had been a library era throughout. In the sixteenth came the Reformation, which swept away "papistical" libraries. More than eight hundred libraries of monastic orders, in England alone, were dispersed or destroyed by this iconoclastic whirlwind. In 1540 the only libraries left were at Oxford and Cambridge and in the cathedrals. But at the same time, the invention and rapid spread of printing had superseded the slow processes of making manuscript books, and had opened a new life for libraries. The first library built under these new conditions was that of St. John's College, which brought over from the monastic and early college era the alcove arrangement.

The renaissance of wall shelving spread rapidly. Compared with the chaining of books to the shelves, which it superseded, it was an open-access reform. To quote Cardinal Mazarin's library motto, "Publice patere voluit." It was quickly followed in France, but more slowly in England. In 1610 this form of shelving with a gallery was adopted in the Bodleian Library at Oxford (see illustration on p. 275 of Clark), the progenitor of our first distinctive American library interiors, now discredited and almost abandoned.

Modern History

From the beginning of the seventeenth to the middle of the nineteenth century, there is little to chronicle in the evolution of the library building. What libraries were built or altered followed either the monastic-collegiate alcove style, or the Escorial-Trinity wall shelving and gallery, or both. The best illustrations of libraries of this era are still extant at Oxford and Cambridge. A view of what he calls the oldest example of the combination of high wall shelving broken by a gallery, with the older fashion of alcoves, as they still exist at the Bodleian Library at Oxford, is shown by Duff-Brown on p. 2. A fine specimen may be seen at Trinity College, Dublin, interesting because of two modern attempts to burst the confines of old walls: first, as shown in the traces of sliding cases long antedating those of the British Museum; second, in the two-story wooden stack recently installed and already outgrown, in the cloisters below the library, which were originally open but were g'assed in to protect the stack. (See illustrations, reproducing photographs taken by the author!)

The first appearance of the floor case, the precedent of the modern stack, appears in the library of the University of Leyden in 1610, of which a large illustration is given by Clark¹ and a smaller one by Fletcher.² Here is seen the utilization of the whole floor of a book room through parallel cases evidently open to access, although the books are all chained. The library is lofty and the shelves lighted not directly from stack-windows, but

¹ p. 6, No. 1, Vol. 9, Arch. Rev., Boston, Jan. 1902.

² p. 170. ³ p. 10.

by chapel windows high in the wall, which appear to fill the room with ample diffused light. Some of the "broad-brims" pacing the floor may have been our Pilgrim ancestors, who, for the ten years subsequent to the date of this picture, were living at Leyden and frequenting the University.

The Radcliffe Library at Oxford, designed in 1740, seems to be the earliest example in England of a circular reading room lighted from the roof. This is said to have been suggested by the central reading room of the old Wolfenbüttel Library, built about 1710.

"The first architect," says Duff-Brown¹ "to plan a library which in any way meets the modern requirements of giving ample accommodation was Leopoldo della Santa, who in 1816 published in Florence a quarto pamphlet, which is an attempt to construct a library building entirely from an utilitarian point of view." The plan, which Brown reproduces, suggests Dr. Poole's plan which was embodied in the Newberry Library of Chicago.

In 1835 Delassert proposed for the French National Library a circular plan of building, which perhaps suggested the present reading room of the British Museum. In 1885 Magnusson proposed an unending whorl as a good form for a growing library.²

While English libraries, and those of the continent, were developing these phases of old types, separate library buildings began to appear in America. The first one actually erected for library occupation still remains in use,—the Redwood Library of Newport, R. I., built in 1750. The main room is a hall 37 x 26 feet, 19 feet high, with two lean-to rooms at the sides. A massive portico gives an impressive front, but cannot be said to found a distinctive library style.

¹ Libr. Construction, p. 4. ² Burg. 138: 11 L. J. 360.

Our early proprietary associations and parochial libraries were stored in public buildings, or in buildings with no peculiar features. The school district libraries established by the state of New York in 1835, and similar libraries founded soon after in other states, seem to have been stored in schoolhouses, though intended for public use. The state libraries, first established as early as 1773, were deposited in the State Houses. The Young Men's libraries of the early period were kept in rented rooms, or at best in rented houses. No special phase of library buildings was developed until about the middle of the nineteenth century, when colleges began to build. Gore Hall at Harvard (1841) was modeled after King's College Chapel at Cambridge, Eng., and was even at that date said to be "ill adapted to the purposes of a library." The University of North Carolina "erected" in 1850 a library in the form of a Greek temple, with hall 84 x 32 feet, 20 feet high. These essays at importing styles certainly developed no models worth imitation, but nevertheless they were imitated.

Our Own Era

Our own "library age" may be said to date from the middle of the nineteenth century. The parliamentary investigations which led to the first English library act in 1850, and the organization of the Boston Public Library with us in 1852, mark the beginning of the modern library movement. I will not try to trace the gradual evolution of library buildings abroad. I do not know enough about it to handle the subject well. I find, however, in Edwards' Free Town Libraries,¹ London, 1869, a prototype of our own "Points of Agreement among Librarians on Library Architecture." But as late as 1907 an English architect (Champneys²) says that "the examples of what a library building should not be are out of all proportion to those which are worthy to be followed."

In America, building developed with the library movement, at first getting rather ahead of it. Indeed, there were few experienced librarians to direct it, and even these were mainly the old style conservators and bibliographers. The topic of building does not appear in the discussions of the library conference in 1853. The architects had to develop a precedent. The first distinctive type to appear was adopted in the Astor Library in New York (1853) and followed in the Boston Public Library dedicated in 1858. The exterior of the building had no peculiar features, but the interior was distinctly a type to be outgrown. The main room was a lofty hall, surrounded by galleried alcoves reaching to the ceiling, storing the books, while the readers

¹ p. 40.

² p. 1.

occupied the floor, into the middle of which the main stairway arose among the tables. This impressive but wasteful interior was copied in large cities throughout the country, and was referred to in contemporaneous discussion as the "conventional style." As it was tested in operation, and as its defects both for storage and administration became evident, the library profession, then getting together, unanimously condemned it. At the Cincinnati Conference of 1882, the A. L. A. resolved that "the time has come for a radical modification of the prevailing style of library building, and the adoption of a style better suited to economy and practical utility."¹ At first there was no agreement on a successor. Richardson, the great architect, developed a library type which was severely criticized by librarians.² But in the rapid growth of libraries, the problem of close, economical and accessible storage of books became acute. How could these accumulating masses be stored and at the same time used? The solution came in the "stack," at first fiercely fought by conservative librarians, but now so universally accepted as to form the distinctive feature of modern American library architecture.

In 1876 an impetus was given to library science, including building, by the government report of that year on libraries, and also by the formation of the American Library Association. The annual meetings of the Association, its discussions, the studies and reports of its committees, the formation and activity of state, city, and other local library associations, the establishment of library schools, have all tended to build up a consensus of opinion on important topics which has been recorded in the library journals, and has slowly but surely impressed itself on architects, on the public, and, not least of all, upon building committees.

¹ 6 L. J. 131.

² 13 L. J. (1888), 276, 332.

A special impetus toward union among librarians was the controversy which arose over the building of the second Boston Public Library. The importation of its exterior design from Paris, and the attempt to build up an interior for it without any consultation with librarians either local or national, seemed such a marked snub to the profession just becoming conscious of power and unity, that it aroused renewed attention to the proper planning of library buildings. A trustee of the library having stated in public that "it was no use to consult librarians, for no two of them agreed on any point," the American Library Association endorsed unanimously at its next conference the paper on "Points of Agreement on Library Architecture," which has since been the accepted basis of all satisfactory plans. A series of nine letters to the Boston *Herald*, criticizing the building and the library management (republished in 17 L. J.), vindicated the library side of the controversy and brought about a change of management. And yet this façade of the library Ste. Geneviève in Paris has been repeated "with monotonous poverty of invention," says an architect, in the mistaken belief that a building once labeled a library is a praiseworthy model to be copied.

Another spur to library building during these last years has been the Carnegie gifts. Their number and wide range, furnishing at the same time an incentive and a climax to both private beneficence and public liberality, finally convinced architects that in library buildings of all sizes and various purposes they had a theme worthy of their best work and highest genius. Mr. Carnegie's first Public Free Library was founded in 1889, less than quarter of a century ago. Up to March, 1911, he had given funds for 2062 public and 115 college libraries.

Forecasting the Years

This rapid sketch has gleaned the records to show how the housing of libraries has grown through centuries toward a rapid development in our own age.

The Present. In looking back through the last sixty years, indeed through the last quarter-century, we contrast twenty-five years ago with the present time. We cannot fail to be satisfied with the advance in rational building. We know better what we want; we are called more into consultation with our trustees as to what is wanted; our opinions are listened to with respect by the architects. If every building is not as perfect as we could wish, how much larger is the proportion of serviceable libraries; how much smaller is the number of stately failures? Turn over the plans in Koch's portfolio of Carnegie Libraries. See how much better is the average interior, how much more satisfactory the fenestration and proportions of the average exterior. In the "Points of Agreement among Librarians," adopted as our chart in 1891, it was stated that "very few library buildings erected during the previous ten years conformed to all, and some of them conformed to none, of these axiomatic requirements." Could we not say now that nearly all library buildings erected since 1891 conformed to most and many to all of what have seemed to us the requisites of construction?

The Next Quarter Century. What has the future in store for us?

In the first place, a swarm of buildings. Private beneficence, already aroused and stimulated, will continue for at least another generation even after Car-

negie shall pass on to his reward. Public opinion in a large part of our country has come to believe in the library as it believes in the schools. Small libraries will follow railway stations into all growing and ambitious towns. Communities now inert will awake and, as instruments for good, demand libraries to stand beside their churches. The buildings of today will soon burst their bounds in the flood of library progress, and require enlargement or replacement.

The colleges will more and more recognize the relations of libraries to instruction and the relations of the building to the library. Large cities will experiment with large library buildings as the crown of their educational system.

Library science also will still progress ahead of its building problems. Where its developments are to end no one can foretell. What Bostwick¹ defines as the chief modern features of American libraries — freedom of access, work with children, co-operation with schools, branch libraries of all kinds, all such expanding activities — are sure to spread still further on the lines of social science, industrial education and good citizenship, reaching out, as Mr. Dana says, for the mechanic and the artisan.

In building there will be serious problems to be worked out. To college libraries will come the great question of the economical and effective distribution of department libraries. In all large libraries the problem presses of how to store closely and still handily the masses of accumulating books; underground stacks, central artificially lighted book rooms, sliding presses, mechanical carriers. In all large centers are impending the enormous warehouses² of the future for dead or moribund books, literary tombs or morgues.

¹ p. 9.

² J. C. Dana, Library Problems.

I see another question impending, — Cannot modern methods of steel construction help out the city problems of light and congestion? Is the massive masonry, which has made such dungeons out of most of our public buildings, necessary for libraries? In view of the universal opinion among librarians that every building will have to be changed, enlarged, or replaced within a short generation, in view of the fact that thick walls kill the light needed for readers, that masonry partitions hinder change, may not the structure that makes our modern stores and office buildings so light, cheerful and airy, be in some satisfactory way applied to our large libraries?

Of one thing we may be fairly sure. Intelligent alliance and the friendship of mutual respect between librarians and architects will so carry conviction to trustees that our buildings of the near future will seem workable to librarians, satisfactory to architects, and noble to the public.

For the remoter future our successors must plan. We do our share if we pass on to them bettered methods and finer buildings.

Firmitas, Utilitas, Venustas

The motto I have chosen for this work is the maxim embodying three essential qualities in building, as given by Vitruvius, the leading authority in his profession, in his work "De Architectura Libri Decem" issued over nineteen hundred years ago at the highwater tide of the classical style of architecture which some of his modern successors have copied too blindly, forgetting that the conditions of our *firmitas* and *utilitas* have essentially changed and modified the twentieth century *venustas*.

Even at that age, note the order in which the author arranged his attributes. *Venustas* last, even in that era of magnificent architecture.

A fair translation of the motto would be stability, usefulness, loveliness.

The second essential is the one as to which the librarian is peculiarly qualified to speak, and of which he is the especial champion, but he is greatly interested in the two other attributes for which the architect is more directly responsible, and perhaps the librarian can help even here by suggestions.

He can certainly serve throughout the processes of planning, in keeping, always and everywhere, all concerned to the spirit of this classical architectural precept so well rendered by the homely Anglo-Saxon adage, "Use before beauty."

Firmitas

In the first place safety and strength of construction must be essentials to everyone of the interested parties, and must be planned for and closely watched by the architect.

I was first attracted to the apothegm of Vitruvius by the second item, but on dwelling on the subject I am not so sure that the first is not quite as apposite. In considering the Latin synonyms, I noticed that *firmitas* had been used rather than *soliditas*, and on pondering definitions in a lexicon, I found this under the head of *firmitas* -- "the quality of the *firmus*"; and under the head of *firmus* -- "strong, proper, suitable, fit." Thus Vitruvius builded better than he knew for modern library building, and voted from the golden age of classic architecture two to one against *venustas* in a library building.

The librarian should constantly bear in mind first cost, and cost of care as well as of administration. There may be a choice between equally strong materials and methods of construction. There may be choice as to use of walls, floors, windows, partitions, lights, heaters. In all these points affecting construction his watchfulness should be constant and his practical advice should have weight. He must warn also against unnecessary heaviness and rigidity, and any methods which would hamper changes or needlessly outlast the probable life of the building. Massiveness is not now essential to strength, and in a library building is a detriment.

Utilitas

Here naturally the librarian must have pre-eminence. While the architect may well correct inexperience in construction, and may chasten poor taste in ornament, he and the building committee ought to defer to the librarian on all questions of administration, and only oppose or override him where he is clearly unripe, "faddy" or wrong. Certainly, in planning, the architect should try patiently to meet all needs of storage or service as presented by competent authority. Here is the core of the problem: by the test of usefulness this particular building is to be judged a success or a failure.

But the librarian should be sure rather than obstinate. While he must be clear what he wants to do, he should remember that there may be several ways of doing it. If he is really an intelligent as well as an expert librarian, he will often find in the architect a helpful inventiveness to which he should yield an equal adaptability. Some of the best library ideas are an architect's development of a librarian's idea; — witness the stack.

As to a union of use and beauty, I would quote the Alumni Committee on the Harvard University Library:¹ "Not only should the new library be as perfect in plan and equipment as a wise and generous expenditure can make it, it should also, avoiding any display of costliness, possess a beauty and dignity of its own, both within and without, that it may be a constant source of pleasure and inspiration to all who use it."

¹ L. J. May, 1902.

Venustas

I was first tempted to translate epigrammatically strength, use, show, but show seemed just the effect to avoid, although the *venus* suggested it. The lexicon defines the meaning of *venustas* as loveliness, beauty, charm; and I take it beauty — plain beauty — is what we most wish to see in a library building.

"While it is undeniable that the more directly utilitarian requirements should take precedence, aesthetic treatment of a library building is no unimportant matter. A building which is a work of art is a powerful educational factor; a dignified structure commands respect; an attractive exterior and pleasing interior attract toward use of the building." — *Champneys*.¹

The eleventh edition of the *Encyclopædia Britannica*, in its article on Architecture, says this: "The end of building is convenience, the end of architecture as an art is beauty, grandeur, unity, power." "The most important qualities (it continues) are size, harmony, proportion, symmetry, ornament and color." Of these, size will depend mainly on the scope of work of the library, and on the funds available. Ornament in a library is a questionable beauty. The other qualities are possible even in a small and inexpensive building. For harmony and proportion, the architect may well be allowed choice at the outset as to what general form of building would best suit the site, and accord with the environment.

¹ p. 136.

I should add to the elements of beauty, material. In this the next choice after cost, should be appropriateness and possibilities of dignity and quiet beauty. Nor need the material be expensive. Expense does not always promote beauty; it often ensures ugliness. A good rule to follow is to take "the wine of the country," as it were,—the stone of the state. Not necessarily stone, either. Unless in large libraries, why is not wood good exterior material, if the life of the building is likely to be only twenty-five years? Wood is a fine material for a small building, lending itself to easy alterations or repair, and capable of great beauty. Whoever has had the fortune to sail on Christiania Fjord or Puget Sound has brought away, as pictures of loveliness, a memory of the beautiful villas of those forest-rich shores. Even re-enforced concrete, with its vast possibilities of ugliness, has also possibilities of beauty: witness the business section of Leipsic, and the residence quarter of Hamburg. The different sections of America have various handsome and durable building stones. And every section is near enough to clay to have good brick,—by far the most sensible, and in good hands the most beautiful material for library building. Did you ever see the buildings of Harvard University? If so, you retain now in memory, not so much the gray granite of the library, as the soft, homely, beautiful, wholly satisfactory atmosphere of old Holworthy. If you can escape the bilious brick which just at present is considered æsthetic, and the other brick which exudes soda-blotches, and get the good old-fashioned kind which mellows to a ripe old age, you will please a large constituency.

As to marbles, if they are cheaper than stone or brick, all right. But if additional expense for marble will cripple or dwarf a single feature of convenience or service, I would fight it to my last breath. Perhaps I am prejudiced, by an early experience. Being in

Washington some years ago, I wandered into the new Navy Department Building. Asking to see the library I was shown to a lofty, bare room paneled in marble from floor to ceiling. "Here you see specimens of all the marbles of the world, brought by vessels of the navy direct from their quarries," said the custodian. "But where are the books to be?" I queried. "Oh, the books!" he answered, rather contemptuously; "in here;" and he showed me two slices of space, just the length of the main room, shelved on both sides thirty feet high, lighted only by a tier of single windows at one end, and each space only eight feet wide. Since then, marbles outside or inside a library have been associated for me with vulgar show, not with appropriate *venustas*.

As to the quality of grandeur, I am not sure that it is even appropriate to a library. Is it not some such effect that many architects have aimed at in our bad past? It seems to me that Beresford Pite was right in saying:¹ "A regard for symmetrical purpose, a largeness of proportion and form, simplicity of detail, and great restraint and refinement of moulding and ornament, are qualities characteristic of a library, internally as well as externally. . . . Libraries of all buildings should be freed from the trammels of a merely archaeological architecture. The architect of the present day is apt to rely too simply on precedent." Yes, witness some of our Greek temple libraries in new America.

After all, the material to be used on the exterior is largely controlled by the limit of funds and is a matter for the architect rather than the librarian, unless he thinks the cost of the outside will stunt his accommodations.

¹ 2d Int. Libr. Conf. 106.

Is There an Irrepressible Conflict?

In the future must we face a continuous conflict between the architect and the librarian? Is it true, as was once said, that the architect is the natural enemy of the librarian? Was Dr. Garnett right when he said,¹ "Hence a continual conflict between the architect who desires a handsome elevation and the librarian who aims at practical convenience?" Yes and no. No, certainly, if we mean the word enemy in any but a Pickwickian sense. No, certainly, if we expect a bitter fight and bad feeling. But if we substitute the word "contest" for "conflict," if we look forward to eager but friendly struggles, like athletic contests between colleges,—yes, certainly yes. If both sides are striving for the fine aims of Vitruvius, which I have taken as a motto—*Firmitas, Utilitas, Venustas*—there will be nothing but the amity and mutual respect of brotherly rivals. There will not at first be full accord as to any one of the three points. Sound construction, yes: but must that necessarily be the construction of precedent? Use, yes: but just the phases of use as seen by the untrained eyes of that particular librarian? Beauty, yes: but exactly the beauty of any conventional style?

"I do not believe there is a conflict between the librarian or the committee, and the architect. There is a common meeting ground." —*E. B. Green.*²

"The hostility between beauty and utility is often more apparent than real." —*Patton.*³

¹ Burg. viii.

² 6 P. L. 602.

³ 6 P. L. 200.

There will inevitably be differences, at first, even among consulting librarians. Get together! Let librarian and architect compare views until they find some way of satisfying both, then present a united front to the building committee. If, however, they cannot agree, formulate their difference clearly and present it to the committee for decision, as business trustees often present doubts as to their trust, in a friendly suit before a court.

But remember that it is a contest, and have the library side presented as ably as the architect's.

Library Science

Modern library science is yet in its adolescence as compared with architecture, but it is a robust youth. It already knows definitely what it wants, and what it does not want. For guidance, it has a copious literature of first instance, scattered through various pamphlets and four score back volumes of periodicals. It is beginning to have a literature of last instance, in book form, like Duff-Brown in England and Bostwick in America; and even a formal literature about library buildings, Burgoyne and Champneys abroad, and now this volume here. It is very satisfactory to see how these three-thousand-miles-apart authorities agree. There are still differences of method to provide material for debate at the next international conference, but we are close enough together on principles, at least, to convince any doubting Thomas that there is a library science to govern library building.

And in building there is the greatest need of further developing library science. As Fletcher says in his preface:¹—

"One need not visit all the libraries of the country to become painfully convinced that want of adaptation to use is by no means infrequent. With regard to buildings, Lord Bacon's judgment seems very safe: '*Houses* are built to live in, and not to Looke on: Therefore let Use bee preferred before Uniformitie.' If this is true for houses, then *a fortiori* for libraries."

¹ p. 1.

But the main reliance of architects and building committees should be the living interpreter, the experienced librarian who can expound, apply and extend the written word. Here is embodied library science face to face with us, to supplement every chapter of this book by the latest developments; to explain apparent anomalies and inconsistencies; to differentiate essentials from non-essentials; to concede where concession is possible; and to maintain with conviction the requirements to which the architecture of tradition must yield.

Nor are the books closed with this volume. As a writer in "The Dial,"¹ says: "The history of Library Science is not closed. There remain an indefinite number of interesting chapters still to be written which are not unlikely to prove even more significant than any that have gone before."

¹ Feb. 1, 1912, quoted in 37 L. J. 141.

Architecture

Architecture, on the other hand, is a very mature science. It is ages old, with a voluminous literature from Vitruvius down, with many learned and skillful votaries, who have thorough technical education. Indeed, to a layman it seems a bit too much fettered by education and precedent. But it has to tackle all sorts of jobs from temples to stables, and it is very much alive to modern progress. Witness its triumphs with "skyscrapers," steel construction, and re-enforced concrete. It has an almost encyclopedic training and can deal with all problems of itself, if required. But for perfect work it needs a very clear and thorough statement of the technical requirements of each problem. Give him full information, and any good architect can do good work.

The Century Dictionary defines Architecture as combining the requirements of (1) use and convenience, (2) constructive necessity and fitness, (3) artistic excellence.

For buildings that are more practical than decorative, the first is paramount, and it is on this point alone that the librarian is qualified to speak with authority. The other two-thirds — the larger part of the building — he must leave to the architect. If all three points are combined in the result, the architect should have two-thirds of the credit, and if his library advice has been defective, he should have the whole. And what does he get in return, on a small building, except *kudos*? Did you ever think how small a money reward he gets? A lawyer or a surgeon may take, in a difficult case, all

the client or patient has in the bank or can borrow. But an architect, no matter how difficult his problem, and how much he has to work it out for himself with incompetent help, is limited to a percentage suggested beforehand by a schedule of fees. For instance, Miss Marvin gives views and plans of a \$10,000 library at Darlington, Wis., built by Claude & Starck of Madison, which she says meets perfectly the needs of a small library with one slight exception. She reports the architects' fee to have been \$379.85. For this they had to spend time and thought on the plans, studying library science as applied to that particular problem. They had to have many sittings with librarian and board. They had to pay draftsmen for elaborating several sets of plans. They had to prepare specifications, invite, examine and allot contracts, watch all the material that was put in and all the work that was done. Were they overpaid? In fact, were they fully paid for their work unless they acted as their own draftsmen? All they really got out of the job was the satisfaction of good work done, and a certain amount of reputation, which I am glad to help by this mention.

When an architect does such good work as this, as a result of giving proper consideration to the real needs of the library, he surely ought to have credit for it, and all librarians who know about it ought to give him thanks and wide public praise.

Where does the Library Come In?

Architecture, as I have said, deals with a wide range of subjects, from the pure idealism of tombs, monuments and memorial arches, to the pure realism of twentieth century workshops. The former are, so to speak, all outside, and proper themes for competition. The latter are nearly all inside, to be worked out by careful and special study of their uses.

Where, in this wide circle, does the library come in? All librarians will claim, and most architects will allow, that it lies very near the workshop; as near it surely as the schoolhouse. It certainly needs careful study and adequate expert advice.

The tombs, monuments, and memorial arches, are rich subjects for architectural taste and ornament, — for *venustas*.

For workshops, for schoolhouses, ornament is inappropriate. Good taste, shown in proportion, lines, color, material, is still demanded, but they belong clearly to the domain of *utilitas*.

The library comes, beyond doubt, in the latter group. There is a vast range of buildings between, more or less proper subjects of decoration and ornamentation.

But the library should incontestably be assigned to the utilitarian extreme.

What Conflict is Possible?

Are there any points where architect and librarian may clash? There will be many points of course where they will differ at first, and have to get together through argument. But are there any influences toward a deadlock?

On the part of the librarian there should be no prejudice. If he be immature, or conceited and opinionated, and only half informed, he may not deserve to win in such a contest of ideas, but his bias at all events would be professional, not selfish.

On the side of the architect, however, might there not be some bias? In the first place, professional bias toward some style he has got his mind set on? He may be too willing to sacrifice *utilitas* to *venustas* on this account. During the Boston Public Library discussion, an architect wrote to a daily journal: "Library buildings should be treated as monuments, not as workshops, and must be made beautiful even at the sacrifice of utility." But if any architect or any trustees now have such views, the building committee is to blame if it employs him, or even admits him to a competition.

In two points, however, selfish considerations might bias an architect, if he were poor or ambitious. In the first place his remuneration is by percentage on the total cost. The more his client spends, the more pay he gets. This situation conflicts with economy. In the second place, his reputation and his future prosperity depend not so much on librarians as upon the general public, which admires size, costly material, decoration, show.

Witness the constant reappearance in magazines of the worst libraries as examples of good architecture. Marching with his own artistic temperament, this conflicts with economy, utility, and simplicity.

As to the danger of such a conflict, I personally have little fear, if some care is taken in selecting the architect. I know many of the profession. All of them I believe would spurn the first temptation, as they would an open bribe. Some of them might be influenced insidiously by the second, under the guise of Pure Art. But if shown by an expert librarian, worthy of belief, that any architectural beauty would tend to cripple the work of the library, I believe that every one would yield his views promptly and willingly. Indeed, on the first point, I have known an architect to sacrifice his own interest knowingly.

See anecdote at the bottom of p. 131 proximo.

What Contest is Likely?

Putting aside any question of such serious conflicts, are there any differences to be expected? Why not leave it all to the architect, with what information he can get from the local librarian? There are a number of points to be settled both in the interior plan and about the exterior as affected by the interior. The question, for instance, of the best size and collocation of rooms, and height of stories, for effective and economical administration. The questions of shelving and furniture, always differing somewhat from previous problems. Such questions as ornamental fireplaces and massive furniture, and ornamental as against effective lighting. Questions as to the irreducible minimum of entrance halls, passages and stairways. All these on the interior:—on the exterior, the height of the basement, the height of the front steps, the height of stories and the arrangement and shape of windows, expense of material and decoration as against more space and better facilities inside. All these questions are open to honest difference of opinion between a librarian and an architect whose motives and ends are the same. And the architect with preconceived ideas, and a bias toward architectural effect, ought to have library views explained to him by some librarian who is his equal in experience, education, ability and personality.

The conditions have bettered in recent years. "The librarian's ideal and the architect's ideal, years ago wide apart, are today coming closer together. Full comparison of views may lead to agreement." — *Hamlin (architect).*¹

¹ 31 L. J. Conf. 82.

Where Lies the Blame?

Where should the blame of bad buildings rest? Sometimes, certainly, on the architect. Perhaps he is incompetent, perhaps he has been wilful. Champneys (an architect himself) says of the English situation: "In many cases architects have wilfully sacrificed utility to æsthetic considerations."¹ And so often in America. I have recently heard of an architect chosen to build a library with only a limited fund available, calling for twenty-five per cent more money for more expensive material, before he had begun to lay out the interior. Here the blame should rest on the architect, unless he acted under positive orders from the committee.

But the architect is not always to blame. Sometimes the librarian has not been strong enough or has not had enough experience to guide him aright. Sometimes a "faddy" librarian has led him to adopt features which the profession generally disapprove. More often the building committee have left the problem to the architect without proper instructions, or have actually instructed him to disregard librarians' advice, and to make the building showy at any sacrifice of use.

The board of library trustees, not the librarian, is the architect's client, whose instructions he must obey. In many cases the parties in fault have been the trustees, or ultimately the public. "The worst possible combination is that of board and architect, the librarian being ignored." — *Bostwick*.²

So do not blame the architect for a poor, clumsy, extravagant building, unless you can surely place the responsibility on him.

¹ 136.

² p. 271.

Grades and Classes

Grades. In dealing with libraries, it will be well to grade them by size, or rather by cost, which will accomplish the same end; and to arrange them by scope.

Any grades must be arbitrary, but as some attempts at distinguishing small from large have already been made, rather loosely, I will try to group them as I think they can be treated. Thus:—

Minimum, those costing under \$5,000.

Small, those costing from \$5,000 to \$20,000.

Moderate, those costing from \$20,000 to \$75,000.

Medium, those costing from \$75,000 to \$300,000.

Large, those costing from \$300,000 to \$1,000,000.

Very large, those costing more than \$1,000,000.

Miss Marvin¹ seems to hint at \$3,000 as the limit for very small libraries, but I note that \$5,000 is a more frequent limit for Carnegie gifts, so I follow that guide.

The next grade I limit to \$20,000, on a suggestion from Miss Marvin² that it is unwise to attempt a two-story building for less than that sum. The third limit, also, I assign because Miss Marvin says that it is unusual and unadvisable to have an architectural competition for buildings of less cost than \$75,000. The other groups are deduced from my own experience.

I shall deal with only two of these groups at length, "Minimum" and "Very Large." The very small, or "minimum" libraries are adequately dealt with by Miss Marvin, Eastman, and A. L. A. Tract No. 4. See, however, later under the heads of Plans, and also paragraphs under all heads which fit small libraries.

¹p. 8.

²p. 9.

Classes. Arranging libraries according to their scope, I classify them thus:—

- Private.
- Club.
- Proprietary.
- Institutional.
- Professional.
 - Scientific.
 - Law.
 - Medical, theological.
 - Special business.
- Government.
- State.
- Historical and antiquarian.
- University.
- School.
- Public.
 - Branches.
 - Suburban.

Of these, I will treat Private and Club libraries in one chapter, Proprietary, Institutional and Professional in another, Government, State and Historical in a third, University, College and School in a fourth. To Public Libraries I will devote a separate chapter. "Branch" and "Suburban" I will consider in my chapter on Public libraries. To some one of these classes any collection of books may be assigned; any collection, that is, which might require separate treatment in this volume.

Mr. Belden, chairman of the Mass. Public Library Commission, writes me of the especial need of suggestions for small libraries, "which are springing up like mushrooms, most of them very poor specimens of what a good small library should be. . . . Trustees in small libraries are usually better planners than the librarian."

Small Library Buildings

Minimum. For this grade of very small libraries having, on the Carnegie ten per cent basis, not much more than \$500 a year to spend, there would seem to be still need of a special manual. Eastman has only two illustrations and Miss Marvin only one, in this grade, most of their plans being far more costly. In A. L. A. Tract No. 4, I gave about ten pages which would be especially useful to very small libraries. Eastman and Miss Marvin place the limits of a small library much higher than I do. It seems to me that a library — perhaps not the very smallest, but certainly one that could spare \$10,000 for building — would know at least where to go for advice. But the minimum grade librarian would be apt to be an amateur or a novice, and her board would hardly know much about libraries or library personnel. To them clear, succinct, systematic suggestions, illustrated by just such views, floor plans and statistics as Miss Marvin has given, would be a very great help, especially in new and isolated communities.

If she, with Mr. Eastman's assistance, could compile another manual or tract, confined to libraries which especially need specific advice, cannot afford to pay for it, and are situated at a distance from any experienced librarians, I think they would do very great good. Such libraries may even copy model plans if thus carefully selected and commended.

To condense here a few principles, — it is best to rent an inexpensive room and furnish it very simply, until the trustees have felt their way, know what to do and have say a thousand dollars in sight to build with and enough

funds to run a building. But "it is desirable to get a library out of rented quarters as soon as possible." — *Utley*.¹

"A building is a good thing; it makes the library mean more to the public. Build to save light and coal, build to save work in keeping neat and clean, build to allow for growth, build so that one person can control and do all the work." — *Ranck*.²

"A plain one-story wooden building built on posts, with only one room, heated by a stove, lighted by oil lamps, very simply lined with wall shelving, furnished with the plainest of tables and chairs, will do at first."³

"The public library in a small town is usually its only intellectual center." — *O. Bluemner*.⁴ And it may become its pleasantest social center.

The first development would be to a one-story, one-room building on foundations, but not with finished cellar or basement. Perhaps a fireplace could be added, with more and better furniture and shelving, so planned that different corners and separate divisions of shelving, still under control from a central desk, could begin the rudimentary divisions of a library; reference, light reading, children. Serious reading would have to be postponed, or pursued under difficulties.

. The next stage would still be confined to one open main floor, to be under one central supervision, built on the trefoil plan, center and two wings, in three rooms, or rather three parts of one room, divided by cords, rails, glass partitions or low bookcases. To this could be added at the back another projection, to be used as the reference library, or for open shelves. "In the trefoil plan, the end wall of the book room at the back might well be all glass, with no windows at the sides. This

¹ 24 L. J. Conf. 23. ² 30 L. J. Conf. 61 and 10 P. L. 402.

³ Sturgis, Vol 2, col. 752. ⁴ 3 P. L. 240.

would be very easy to extend." — *O. Bluemner.*¹ Up to this time, no provision need be made for a private room for the librarian.

But about this stage it is time to think of a raised cellar or basement, which will about double the available floor space and begin to allow division into departments, the first increase of force being a janitor who can act as supervisor of the lower rooms.

Soon after this a regular trefoil building can be erected with practicable basement, with the introduction of two small rooms at the inner corners of the back ell, where they need not block light from any room.

From this on to a two-story building with stairs, there are many alternatives, and no regular style of building can be prescribed.

When a town has no adviser at hand, it can apply to the state library commission, or if there is none in the state, to the nearest state commission, which at least can advise from what librarian it can get good advice.

Most of the very small libraries described in the 1899 Report of the Mass. Free Public Library Commission occupy a room or rooms in schoolhouses, town halls, churches, the librarian's house, or public blocks. The smallest grade of separate library buildings seem to me more uniformly appropriate and beautiful than many of higher grades.

As I drive about seashore and mountain resorts and through small country towns, I see many beautiful little library buildings, usually closed at the time I pass, so that I cannot inspect the interiors. In the 1899 Report of the Mass. Free Public Library Commission, I find descriptions of several low-cost library buildings. For instance: —

<i>Old buildings bought:</i>	Westbury	cost	\$100.
	Boxford	"	360.
	Scituate	"	700.
	Mendon	"	1,000.
	West Tisbury	"	1,063.
<i>New wooden buildings:</i>	Marston's Mills	"	425.
	Freetown	"	1,500.
	Provincetown	"	3,000.
	North Scituate	"	3,000.
	Southwick	"	3,000.
<i>New brick buildings:</i>	Bernardiston	"	2,000.
	Buckland	"	2,500.
	Templeton	"	2,500.

with several others costing less than \$5,000 and many costing \$10,000 or less. Of some of these, exterior views are given in the report. I should much like to see interior views, floor plans, full statistics and comments of local librarians.

In A. L. A. Library Tract No. 4 I said, and still think, that—

"A rough, unpainted, cellarless, one-room wooden building could be put together for say \$250, and can be fitted up and made comfortable in all weathers for as much more.

"From \$1,000 to \$2,500 will pay for a tasteful wooden building amply sufficient for a library of not over 5,000 volumes.

"\$2,500 to \$5,000 will erect a similar building, to hold 10,000 volumes or more.

"From \$10,000 up will provide for a brick building, and from \$15,000 up a stone building for growing libraries of 15,000 volumes or more, with the varied functions that such a collection implies."

These figures are only an approximation and will vary in different sections, with prices of material and labor, but they will do for rough guess to start with.

The only comments in Miss Marvin's pamphlet which seem specially to apply to this grade are these:—

"A building costing \$3,000 or less cannot have library rooms in the basement." (p. 5.)

"A \$5,000 building usually consists of one large well-lighted room, with basement for storage and workrooms." (p. 5.)

"Small buildings will be the same as the \$10,000 buildings in the points of light, shelving, etc." (p. 5.)

Small Buildings. But the grade from \$5,000 to \$20,000, which probably will include a large majority of American libraries, would be apt to be more sophisticated, to have a bright and even a trained librarian, and one or two practical trustees who could seek advice intelligently, get at similar libraries in their neighborhood or state, pick out a good architect, and not need precedents quite so much. Their problems are much the same as those of larger libraries. Their need of features looking towards economy of administration and effectiveness of supervision with a small force would be greater; but they would begin to have many of the essential functions of larger libraries; especially, in our rapidly developing communities, the interior and exterior provisions for growth which require such intelligent forethought and careful planning. Whatever may be thought of larger problems, here is the place for an experienced library architect, one who has already built a small library which stands the test of use, some clever and sympathetic young architect, perhaps, who has already shown his skill as a builder and his taste as a designer, but who is not too busy to give some of his own time to the task. With such an architect, thoroughly commended by librarians who know his work, there may not be need of a paid library expert.

Koch gives illustrations of ten library buildings in this grade, besides several branch libraries whose cost is not stated. Miss Marvin gives twelve illustrations in this grade; Eastman ten.

In this "small" grade would come many branches and many suburban libraries.

Some English plans show a two-story head-house, with a one-story extension to the rear, lighted from the roof. Why would not this plan work well on narrow and deep city lots?

Since writing the above, I have had a letter from Miss Marvin, from which I quote, "I should like to suggest that you advise small libraries to consider their state library commissions as their official advisers in the matter of building. They could help in detail work, pass upon their plans, and above all prepare the instructions for the architect before he begins to draw. Out in our part of the country in smaller towns, there are very few competent architects, and a great many beginners, who do not ask or expect instructions from the library boards. They simply draw pictures of their ideas of interiors and exteriors of libraries."

See Light, artificial, p. 201; and Ventilation, window-system, p. 210.

Moderate and Medium Libraries

Buildings to cost anywhere from \$20,000 to \$1,000,000 present much the same kind of problems, varied more by class than by cost, but growing more complicated, of course, with increased size and scope.

To quote again:¹

"As a library grows, the rudimentary divisions still prevail, sub-divided according to special needs, such as *Separation of books*, as under art, music, patents, etc.; *Separation of work*, as librarians, delivery, janitor, etc.; *Separation of readers*, as adults, children, serious and light reading, etc."

The architect's special parts of the problem, construction and exterior, grow rather less than the librarian's. The latter's problems increase with the number of departments and rooms. The principles remain substantially the same, but their application to the relations of books, administration and readers requires more study. The necessity for special experience and maturer judgment becomes greater and greater, and the librarian's side of consultation needs strengthening with every thousand cubic feet of size to be apportioned rightly. With increased size the diversities of use between different classes of libraries become more technical and intricate. Unless the local librarian is expert and mature he needs an able and experienced adviser to be able to hold his own with the architect, who will wish his problem more thoroughly and authoritatively presented as it becomes more complex.

¹ Sturgis, Vol. 2, col. 753.

Very Large Buildings

The buildings to cost over a million dollars are likely to be in the state, public or university classes. Some of their peculiar phases will be discussed under those heads. The features they have in common are size, material and construction, entrances, stack, relation of stack to reading rooms, underground stories, stairs and elevators.

Material and construction are perhaps the most problematical. As has already been questioned, must libraries be of solid stone construction like most of our recent public buildings? Must they be gloomy dungeons like our typical custom-houses? One objection to massive and imposing build is the burden of shade imposed on the inside rooms and corridors by thick walls, deep window embrasures, rows of columns, porticos and overhanging cornices. Can they not be given sufficient dignity and yet be of modern steel construction, like our business blocks that are so light and airy? Or, if an imposing front be necessary, why not plan it with columns, portico and approaches, as a mere façade to mask three other exterior walls and partitions of light construction? One important consideration toward this end is the belief of librarians that every building may require alteration, enlargement, possibly replacement in less than a generation, and ought not therefore to be too solid.

Why not put the stacks on the front and sides, thus giving a light construction tone to the building?

If such a daring experiment could be made for a very large library, it would lead to omission of impressive outside stairs and rows of useless columns, which often encumber entrances and largely increase the cost of library buildings.

The stack, still in the course of development in smaller libraries, must be studied as the principal problem in a very large library.

Room to store enormous and continually enlarging stocks of books will be required. Where to put the reading rooms is a minor problem, the chief query being where to give them the best daylight, either outside, or on courtyards, or under the roof; to leave ample space for them, not too far from books and administration rooms. Could a large enough stack be built on what might be called the daylight fronts and the daylight stories? The question of dark, central or underground stacks will be discussed in a separate chapter. It is only outlined here as one of the chief problems of the very large building.

Elevators and mechanical carriers, house telephones or speaking tubes will furnish larger problems the larger the building is to be.

Inside stairs and passages, just large enough, no larger, than will be required for use, and so carefully placed as to unite, rather than separate, departments of the library, will in themselves be a special study both in service and in economy of space and cost. The more unnecessary cubic space, width, length and height, you waste on them, the more your library will cost to build, and the more will be the annual expense of caring for it and of repairing it.

CLASSES

Private and Club Libraries

Private libraries, while a frequent problem for architects (in the United States there were over a hundred thousand in 1870, averaging 250 volumes to a library, according to the ninth census) have not much to interest librarians, who are seldom called in to run them. A private library is oftenest a more or less casual collection for the use of the owner and his family. Occasionally it expresses some special taste in reading or collecting. But whatever it includes, it is at the same time a store room and a reading room for a very few persons, as it was in old Roman times, so that it would be fitting for the architect to take the old Roman tone in its treatment, the tone of the Vatican library in miniature. Wall shelving, open or glassed cases, carvings, free decoration, busts above the bookcases, friezes, whatever he thinks appropriate and cozy, may be used in it.

Gladstone in his interesting article on "Books and the Housing of Them"¹ describes an arrangement for twenty thousand volumes (evidently his own library) "all visible, all within easy reach, in a room of quite ordinary size." He sketches a floor plan of shallow piers or alcoves all around a room 20 x 40, with most of the centre left open for furniture. This plan is worth looking up by an architect charged with planning so large a private or club library.

¹ 27 Nineteenth Century. 394.

A club library is only an extension of the private library idea, to be used by many men rather than by a few. Here the tone may be the same, varied perhaps by the first formal monastic features.

Here alcoves might well be used, with no rigid steel stacks, but handsome wooden shelving.

Just few enough men could find quiet seats, with books all around them, a cozy window seat with a leaded window to look out of, not too many other readers or busy attendants to disturb their quiet by hunting books on the neighboring shelves.

A private or club library is a good subject for an architect to exploit, taking beautifully bound books as the key to his ornamental treatment. Quiet, artistic lights are appropriate, rich old woods and decorative rugs; everything that is taboo in a public library. The key-notes should be rest, comfort, literary cosiness, private proprietorship; if anything more, refined hospitality to personal friends.

Proprietary, Institutional

Proprietary. By these I mean what might be called literary clubs, owned in shares, and supported by dues, like Athenaeums. Most of these combine some of the features of club libraries, and the reference and circulating functions of public libraries. Their constituency is smaller, however, more select, and usually has a higher degree of literary taste. In building, they will usually need rather more of the home or club atmosphere than other classes of libraries, and much less supervision. Here, for instance, the alcove and the window-nook might properly be used in reading rooms. The readers would be fewer, even in busy hours, and more homogeneous, so that a nervous man might preempt an alcove or a window seat and remain for hours comparatively undisturbed by either attendants or by other readers. Such societies will rarely build until they have a stable membership, many books and an accomplished librarian. From him the architect can learn the characteristics and habits of the members, and can begin planning by studying the features that will please them. As to the shelving of books, the administration and delivery, their problems will be much like other libraries, with perhaps more open access, especially to the new books for circulation.

The old-fashioned Mercantile Library, of which some survive in vigor, is similar in support, but more democratic in membership, and ought to be treated architecturally more like a public library, without children's rooms or such social science features.

Institutional. Under this group I would include the libraries of endowed or charitable societies, such as Young Men's Christian Associations.

If these are wealthy enough, they might have separate buildings or wings or stories for library use. Usually, however, they can only afford to set aside rooms or suites in buildings largely devoted to other purposes, - offices, class rooms, lectures, gymnasium. In such case, the library should be carefully planned to give it the best frontage and light.

Where there can be ample, and if possible separate elevator service, the upper floors, with some light through the roof, would probably offer the best opportunities. Rooms elsewhere in the building would give club facilities, so that feature of proprietary libraries might be omitted. The usual storage for books and good reference and light-reading-room facilities should be provided. If teaching is prominent in the plan of the institution, something like seminar rooms in colleges might be planned near the library, and private rooms teachers and advanced students.

The administration of the library would probably be separate from that of other departments. The library might then be shut off from the rest of the building by sound-proof partitions, opening from a main corridor or from stairs and elevator, so as to be quiet and complete in itself.

Professional

This group might be sub-divided into scientific, medical, theological, law, and special or business; each requiring individual treatment and the advice of a librarian of mature experience in just that specialty. Here again the library will often be housed only in a room or a suite of rooms, to which should be assigned the best possible situation in the building, bearing in mind quiet, light and easy access. The users will be so select and responsible that they can be allowed full access to the shelves. Their use will be like that of professors or graduate students in a university. Wall shelving around rooms in which there are tables for readers; or where many books have to be assembled in one room, shallow alcoves and wall shelving opposite good light with tables near the windows; would be suitable arrangements for such rooms, with a minimum of service and supervision, and of florid ornamentation. Where a separate building is possible, other features might be added. Then, of course, general considerations would apply as to storage of books, administration and accommodation of readers.

Scientific. These would probably be libraries of separate or affiliated societies, in a building with club features; really specialized club libraries, for members only. They would be reference libraries almost entirely, without much circulation. Alcoves and wall shelving would be appropriate, with tables and racks for professional periodicals, and facilities for writing, without much probability of a great rush at any one time.

Medical. These would have much the same use as scientific, much the same quarters, much the same treatment. They would generally be larger, often with separate buildings. Special thought would have to be given to periodicals, the current numbers and back sets of which form a large proportion of the literature of this profession.

There were only thirty medical libraries listed in the government report of 1876, and very few of these appeared to have separate buildings. It would seem appropriate, in this class, to have a museum in the same building as the library, to illustrate the professional literature graphically.

Theological. The majority of such libraries would be attached to schools or colleges and partake of the treatment of departments in universities. There are a few large general theological libraries, however, with separate buildings. Quiet study, open access, slight supervision, inexpensive service, are their requisites. In theological schools it may be desirable to have class rooms near the library.

Separate rooms for quiet reading and writing would always be a convenience, if funds allow.

Where much attention is paid to the older literature of theology, a special provision of shelves for folios and quartos would be required.

Special and Business. As these libraries have recently formed a separate society or section of the American Library Association, they evidently have unique subjects to discuss, but few of them have attained the dignity of separate buildings.

They generally have to content themselves with a suite of rooms. Each one has its individual character, and can be ranked perhaps in the scientific and profes-

sional classes, except that any one library will probably have a more restricted group of readers, consisting of the partners and employees of the maintaining firm or establishment.

If the problem of providing such rooms comes to an architect, he should get instructions from the proprietor and librarian as to its special needs in shelving and other facilities.

In Chicago especially, where part of expense of such libraries is sometimes assumed by the Public Library, they cover a wide field of usefulness and assume proportionate importance.

Their number seems likely to increase rapidly as large firms differentiate, become wealthy, and can use technical libraries for the solution of manufacturing and commercial questions arising so frequently in every-day business that time and expense can be saved by having their own books handy instead of getting them from more public libraries.

Law

Literature of this class has such a peculiar use that law libraries need separate treatment and merit a special chapter. They are sometimes small, as county law libraries; or large -- law-school, bar, city, state. They will usually be assigned to rooms in state capitols, city halls, or court houses, and trustees should exert early and strenuous efforts toward getting good and adequate locations assigned to them.

With good elevator service, it is certain that a whole top floor of the building, or the top floors of a roomy wing, will give the quietest, lightest, and most commodious quarters.

As both the study and practice of the law largely rest on precedents, the books which are most frequently cited have to be shelved close to ample table or desk facilities.

No matter how ample these are, every seat is apt to be filled during the busy hours of the day.

Lawyers like to look up, pick out, and themselves take to their desks, the books they want to use, and therefore there should be open access to all the shelves.

Alcoves are proper here, but more for extending shelf room — really wide open-access floor cases — than for study, which is better at tables.

Space enough is desirable on the main floor for all the books in common demand and for most of the readers.

The quarters recently obtained by the Social Law Library in the new extension of the court house in Boston, though not especially erected for the library, are very satisfactory. They comprise a long, lofty room, thoroughly lighted from high windows, with wall and alcove shelving opposite the light; with gallery possibilities for future growth; an opening to the main story of a stack; and a few rooms for hearings and quiet brief-making. The alcoves are wide enough for passing, but not for study at table. The long tables occupy that half of the length of the room which adjoins the outer wall and have ample diffused rather than direct daylight from windows high up in the wall.

One thing the Boston Social Law Library could not obtain space for, and which would be very desirable, is a sufficiency of private study rooms. In planning for the library, a circular with questions was sent to several large law libraries. One question was, "How many private rooms could you use?" All answers called for several rooms; one librarian would like to have fifty.

The tendency in all libraries is toward ample opportunities for quiet study, but in law libraries, authors, investigators, makers of briefs, especially need privacy and abstraction.

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Government: Historical

U. S. Government. Libraries for the United States government are generally located in the national capitol. One has a separate building, the Library of Congress. The others are attached to the Departments and housed in the Department Buildings.

They may be treated much as law libraries are; indeed a large part of each of them constitutes a law library. Set aside for them well-lighted rooms with a good aspect, in a quiet part of the building. If the rooms are as lofty as the floors of the ordinary department building require, arrange for a two or three-story steel stack. There will be limited service to be provided for, limited circulation, and a rather limited and well-defined storage.

A special problem may soon come, in the form of legislation for a Supreme Court building, which must certainly provide for the consultation library of the Supreme Court, and perhaps for a great part of the Congressional Law Library. In the first instance, the collocation of court room, consultation room, judges' private apartments, and library, will have to be carefully studied. If the main law library is to come to the new building, it will preponderate architecturally, with the necessary reading and study rooms for the bar. Strong common sense, and able library and juridical advice, will be required to avoid smothering the very definite uses of such a building in architectural embellishments.

State. Each state in the American Union has at least one "state library" at the capital, usually in the capitol, maintained at public charge primarily for the

use of state officers, legislators and courts. Latterly they have become also central reference libraries for schools, colleges and citizens throughout the state, and traveling library centers, requiring special facilities for these services. They also require storage for public documents—very near dead literature, fit for close and perhaps dark storage. The growth of state libraries is phenomenal, largely from exchange of documents with other states and the United States, an immense and rapidly increasing literature (quadrupling every twenty-five years) which must be shelved in some form.

"There must be a division of a state library into law, documents, and miscellaneous, with a separate building for law and documents. . . . I am inclined to see the ideal state library as a great warehouse building. I want a dignified, simple, fireproof building; with heat, light, ventilation, conveniences for work, the very best that can be made, and without a dollar for elaborate display." — *Johnson Brigham*, State librarian of Iowa.¹

In building new state capitols, and in replacing old ones, there is considerable work ahead. In such an impressive and dignified building as the people want, the real needs of departments of the government, especially of the library, get scant consideration. To the library is often assigned some part of a prominent wing whose features, height of stories, size and arrangement of windows, style of shelving and furniture, are largely governed by supposed exigencies of the exterior, developed before the interior has been planned. It will require superhuman effort on the part of librarian to get model library quarters into such environment, but tact, early work, and persistence can often ameliorate conditions. Galleries and alcoves you will probably have to accept and do the best you can with, but it is

¹ 30 L. J. Conf. 250.

open to some daring architect to build a stack in full sight, occupying the back half of the inevitable high room, with stack windows on the outside, giving an organ tone to the façade, and an open stack front within to give a similar tone to the interior.

Separate Library Buildings. Large states have already begun to give separate buildings to their general or at least to their law libraries (see *Law*). Such a segregation is to be commended, if space and money can be afforded, for here the library problems can be treated without prejudice, unhampered by traditions of American State Capitol Architecture.

"I am sure I would never put the State Library in the Capitol. The number of books the state legislature and officers use is very limited." — *Dewey*.¹

Simple construction, appropriate fenestration, interior planning beforehand with definite purposes, disregard of outside flights of steps and porticos, compression of inside passages to a minimum, quiet and restful shape and coloring, may yet produce buildings both useful and beautiful, which people of taste will come thousands of miles to see. Here is a fertile field for state librarians, state commissions, and talented architects.

Historical. Though not always on the same grounds as the state library, most such libraries are situated at the capitol, and have similar characteristics. They ought surely to have dignity and nobility of style, as they have in subject. They are entirely reference libraries, and should have preponderant accommodations for students and investigators, but in proportion to their size they have needs as to storage of books and for readers, very like those of other reference libraries. So far as they include antiquities, they need museum rooms and

¹ 30 L. J. Conf. 248.

corridors in their buildings, usually assembly and lecture rooms, and always large fireproof safe rooms or vaults.

See full floor plans of the Wisconsin State Historical Society Building. — *Adams*.¹

Genealogical and Antiquarian. So far as libraries are called distinctly antiquarian rather than historical, the museum function increases. Antiquities, even strictly literary, require different treatment from books. Glass doors for larger wall cases, glass cases for manuscripts and incunabula, merit wider corridors and rooms of different proportions, with different lighting. There must be more screens and free wall room for maps, engravings and pictures. There must be different service and supervision.

Genealogy has become such a favorite fad, and has so many societies which foster it, that separate space, perhaps separate buildings, will have to be provided for it. The features of such buildings, however, need have no marked distinction from historical and antiquarian libraries.

¹ p. 193.

Educational

The library needs of all these educational institutions are similar. It has been said that there are three classes to be considered, -- professors, graduate or advanced students, and undergraduates.

The ordinary youthful students do not get much time for general reading and do not need unrestricted access to all the shelves. If they can get at general and special reference books, their own text-books, and the books recommended by their instructors, it is all they want.

The professors and teachers, however, and to a certain extent advanced students, may wish to browse anywhere, and can be trusted to go anywhere. They want facilities for examining and selecting books in the stacks, they want quiet rooms to take books to (perhaps several books) where they can read, copy and write.

The professors want department and "seminar" rooms, shelved sometimes for permanent sub-libraries of their own technical books, always for books of present use in their daily classes. They also like to have individual rooms for study, and for their records.

The relation of these rooms to the general library is the peculiar and pressing problem of scholastic library building. Dr. Canfield said that the question, shall departmental libraries be included in the building of the general library? has not two sides, but a dozen.

School Libraries. These should not perhaps be treated here, as they rarely, perhaps never, have separate buildings. But as schools rise in grade, or are grouped in large buildings, their libraries may attain size and individual character, and the rooms assigned to them

need careful planning. Good light first, with cheerful aspect; an accessible central position; wall shelving, combined perhaps with shallow alcoves opposite windows; spaces and tables for teachers and for scholars of different grades; a central space for general reference books, an attendant, and what passing to and fro is necessary; as good artificial light as the classrooms,—these would seem obvious desiderata.

College. Colleges and universities vary little except in size, and perhaps in the proportion advanced investigation and large departments bear to prescribed undergraduate study.

Rather open stacks, with carrels, would be preferable in a college; a good general reading room, or a suite of rooms slightly differentiated; nooks and private desks, with a private room or rooms for professors; wall shelving in professors', class or seminar rooms, with shallow alcoves or floor cases at end of rooms for possibilities of enlargement.

Simple, central, inexpensive administration, with tubes or telephones to different rooms and departments; a central position in the college group or building, ample provision for growth, as gifts come in—these points suggest themselves.

At the St. Louis Conference in 1889, a suggestion was made that inasmuch as the library is the heart of a university, it should be given a central position from which the other buildings should radiate.¹

University. Many universities are so large that most of their problems have been suggested in the chapter on Very Large Libraries.

Here the question of seminar or department libraries becomes acute. In some respects it is analogous to that of branches to a public library, but it is far more complicated.

¹ Stanley, 14 L. J. 264.

How many departments are to be provided for; how far can they be served from the main library; if they are to have separate libraries, how large should these be; do they need permanent libraries, or only books sent from time to time; how far shall they duplicate the contents of the central library; how far shall they have department librarians under control of the general librarian? All these questions affect the planning of buildings.

Law and medicine generally have separate buildings and separate administration. As to other departments, systems vary in universities. Indeed, no two seem to have the same system. The one adopted at Brown is simple, inexpensive, efficient. This assigns all the departments to a separate building, not far from the central library, and connected with it by telephone, tunnel, and mechanical carrier. This building has a central room for one attendant. Round him are grouped the reference books needed by all departments, and any professor, through him, can call books at will from the delivery desk at the main library. In this arrangement each department can have its own shelving, and its head can have an adjoining private room, with convenient storage for his own books and papers.

A system, some variety of which seems common, provides wings or galleries on various floors for the seminar rooms, more or less conveniently served from the main library.

Other universities have their departments dotted around the grounds, wherever they happen to have been placed from time to time, without apparent reference to the library, and served from it only by messenger.

Others have seminar rooms built in various forms near the library building, with bridges or arcades between, by which they have access to their own branch of literature, stored in an adjacent part of the library.

Others again have rooms fitted more or less cleverly into the body or corners of a general stack. A very convenient location would be a special seminar story over the stack, with both top and side light, which would allow a large number of rooms of any required sizes.

Without the seminar complication, Mr. Patton¹ is perhaps right in saying that the college library presents a simpler problem than the public library, for it has less circulation, and no children to deal with; but with it, especially on a large scale, this is one of the most perplexing puzzles of library planning.

Mr. Patton also suggests² that the best location for a college library is one that does not require architectural façades on all sides, and that a slope backwards has advantages. The same may be said of many other kinds of libraries.

In a recent number of the *Popular Science Monthly*³ it is suggested that a university might be built in a compact group, with a common façade, as beautiful as possible; offices and lecture rooms to be directly behind this show front; the library occupying a central position further back, flanked by the departments, all connected and all built on "the unit plan" for easy enlargement sideways, endways, up, or down.

In recent projects, there seems to be a tendency toward schemes for a college group, evolved evidently not from the use of the several buildings, but from desire for architectural harmony. Those interested in the library should strive to have it omitted from any such general scheme, and relegated to any modest position in the background, where its details could be worked out without any such exterior bias.

¹ 32 L. J. 266.

² Id. 273.

³ Quoted 15 P. L. 432.

The position of the general reading room is another major problem. In a small college it can be put, as a single room or a suite, almost anywhere within easy reach, near the main entrance, and preferably on the main floor. In a large university a one-story ground floor room in the center of the building, just back of the main entrance, not too high (lest the roof cut off too much light from the lower windows of the wings opening on the courtyard), would seem to be a good location.

Administration rooms, as in other libraries, should be central, well lighted, suitably collocated, and quiet. The delivery desk would better be separate from the reading room, unless it could be combined with the service desk in that room, and so placed toward the entrance end or side as not to let the stir and noise disturb readers.

Where to put the catalog cases adjoining both departments, with good light, is usually another puzzle inviting study.

Public Libraries

"For the American people the library of the future is unquestionably the free public library, established with private or public funds, and maintained wholly or in part at public expense under municipal control." — *Fletcher*.¹

"The 'public library' is established by state laws, supported by local taxation and voluntary gifts, and managed as a public trust. It is not a library simply for scholars, but for the whole community, the mechanic, the laborer, the youth, for all who desire to read, whatever be their rank or condition in life." — *William F. Poole*.²

"The library of the immediate future for the American people is unquestionably the free public library, brought under municipal ownership and control and treated as part of the educational system." — *Dana, L. P.*³

The building of the public library must recognize and serve these noble aims. The idea of public libraries is as old as Rome; their aims are essentially modern in their democracy.

"Modern ideas of the functions of a public library are,—lending books for home use; free access to the shelves; cheerful and homelike surroundings; rooms for children; co-operation with schools; long hours of opening; the extension of branch-library systems and traveling libraries; lectures and exhibits; the thousand and one activities that distinguish the modern library from its more passive predecessor." — *Bostwick*.⁴

¹ p. 110.

² P. L. 1876, 477.

³ p. 13.

⁴ p. 2.

The impulse of these ideas should be practically felt in the planning of buildings. Precedents, models, the fetters of architectural style, must be thrown aside where they impede or hamper progress. Architecture must march side by side with Library Science -- should even lead it and show it the most effective ways to work out the new idea.

In the first place, "cheerful and homelike surroundings" do not accord with lofty rooms, vast halls, and heavy architecture; and dazzling decoration must not repel the man in a working suit.

Popular features should not entirely banish books and accommodations for students. "Every public library should be a library of study. Besides professional scholars and teachers, even authors or editors among residents, there are students in the higher schools, university extension students, members of literary clubs, cultivated college graduates, lawyers, clergymen, who should find congenial facilities in a building meant for the whole community." -- *Fletcher*.¹

On the other hand, it would be a shame to let such serious reading and literature crowd out any popular or educational features, or take an undue share of the construction or maintenance funds.

What should be especially planned for, is inviting and cozy provision for the ambitious young men or women who want to educate themselves either by general reading, or by the special literature of their occupation in life; and for the tired women whether housekeepers, workers or idlers, who can find in books or magazines or papers relaxation and recreation from their home burdens.

Children's rooms, now always a principal feature to be planned, will have a separate chapter.

¹p. 73.

Branch. The branch library, as distinguished from distributing or delivery stations, has its own building, and deserves as careful study as the main library in a small city. Branches vary from merely local stations relying on main libraries for most of the administrative work, to branches practically independent. The problem of branch libraries has come into prominence recently, especially since Carnegie has made so many gifts in this direction. Most of them fall into the "small" grade, but in large cities many rise to the "moderate" and even "medium" figures. One branch library in Philadelphia, with special endowment, cost \$800,000, but that is very exceptional.

The first question is site. Good authorities say that there ought to be branches about a mile apart; one, that is, within half a mile's walk of any family. Crunden says,¹ "The ideal would be to have a branch library as often as we have a public school." The average constituency of branches in Great Britain is said to be 60,000. In this country it has been suggested that there ought to be one for every 40,000 dense population, or one to 25,000 in opener districts. But there can be no invariable rule. Circumstances differ as well as available funds.

Chas. W. Sutton of Manchester, in an article on branch libraries,² summarizes:—

"There should be a lending library for every 40,000 in close populations, 25,000 or 30,000 in scattered communities.

"Placed on car lines in the thick of the population.

"Not more than a mile apart.

"Never more than 15,000 volumes in stock.

"A majority consider 10,000 volumes a great sufficiency even in a large city branch.³

¹ 24 L. J. Conf. 153.

² 6 The Libr. Asso. Rec. 67.

³ 5 The Libr. Asso. Rec. 501.

"No library with less income than \$7,500 should try branches. It would be cheaper to pay borrowers' carfares to and from the main library."

See *Bostwick, "Branches and Stations."*¹

A good general rule is to watch neighborhoods, especially outlying districts, and notice where schools or fire department buildings are demanded, and where little groups of local stores spring up. These groups usually form in the most accessible localities in new districts. It has been said that branches in residence quarters are more used than those in business centers. This is undoubtedly true of business sections in large cities, but, nevertheless, even locations in residence quarters should be chosen for ready access, and ready access with local demands has already selected such locations for stores in smaller places. A lot near a schoolhouse is always good: it is handy for the children.

Like other small libraries, branches have to be planned for easy supervision and economical service, hence, all departments should be on one floor, with high basement, if possible, for janitor, heating, toilet, and possible social service functions, like classes and lectures. Provide for delivery, a few quick-reference books, and a limited stock of books to be lent.

The number of books to be shelved will vary with the constituency, from 2,000 to 15,000 volumes — the fewer the better. When once settled, no growth need be provided for, as disused books can be sent back to the central library from time to time, to make place for new books. Nor will administration grow largely. But growth in the parts allotted to different kinds of reading, to children, and to social service functions must be provided for, inside the building preferably.

¹ Chap. XVIII, p. 233.

Corners, or railed-off parts of rooms, will separate periodicals and other light reading from children, reference books and delivery desk. Readers should be able to choose books and help themselves by absolutely open access, to minimize cost of service. Very little provision need be made for serious readers, who can be referred to the central library. If any cataloguing is to be done at the branch, a librarian's room must be provided. If not, and there is only one attendant, an enclosed delivery desk is enough, and the space usually taken up by a librarian's room can be given to books or readers.

The conditions in city branches will be very similar to those in small towns, with perhaps less of the neighborhood club, and more of the social service idea, without any problems of increased storage of books, and with more difficulties in foreseeing changes.

As to cost, a report to the city of New York recommended \$5,000 for small branches, and up to \$10,000 for large ones. But in Brooklyn and other cities, separate branches for sections as large as, and situated like, suburban towns, have cost as high as \$150,000.

A very interesting case of establishing several branches at once may be found in a description of the Brooklyn plan.¹

In New York city, to get more branches than could be afforded in buying expensive sites, and to get them where they were wanted, single buildings in the midst of blocks have been taken.

In England, many of the newer branches include "social center" functions, not only ladies', boys', rate-payers', conversation, and attendants' tea rooms, but even in one case a restaurant, which is expected "to provide a large share of the cost of maintenance."

See *Bindery*, p. 253.

See *Bostwick*, under Rooms for Classes, p. 325, *prox.*

¹ 28 L. J. 113.

Suburban. Suburban libraries differ on the one hand from country libraries in remote regions, and on the other from branches in cities. They are near enough for "team work" with the library system of the city in whose suburbs they lie, but they serve an independent community, often jealous of its privileges. They have not quite the problems of growth of the country library, because they can have an inter-library loan system with the city libraries, or can arrange to refer to them many inquirers and students. This possibility may limit the size and expense of their buildings, and the necessity of providing for unlimited growth.

Exceptional Cases

Middle of Blocks. Occasionally, as with the present Cincinnati Public Library, and with the New York City branch libraries, circumstances require the location of the building in a block. Of course this necessity is a handicap. The problem of giving all the departments good positions and full light is difficult when there is space all round the four walls, but when both side walls are blank, ingenuity is required in providing all the requisites for every department. Natural light everywhere is impossible, and artificial light must be largely relied on. Whatever features (like closets and stairs where there are no books to be picked out or read) can be assigned to the middle or waist of each floor, will leave more chance for front and rear use of clear daylight. The top floor can be all utilized with top light. A light well from the center of the roof will mitigate the dimness of illumination on staircases and entries. The experience of New York is valuable for such problems, and would doubtless be freely available. But it is a good rule to avoid such locations, if possible.

Top Floors. Exigencies of income may require a Board to rent part of their building, as in the case of many of the "Mercantile" libraries which still survive. While the St. Louis Public was a school-board library, it had this experience. In these days of roomy and rapid elevators, such a necessity is not so bad as it seems, especially if one or two rooms in a public library could be left on the ground floor. At the top there is usually good air, comparative quiet, coolness, and light, even in smoky cities. Modern methods of construction carry

great weights safely, and it is possible to plan service and reading rooms on the top floor with one or two-story stacks beneath, giving fine accommodations with good business suites earning income, on floors beneath. Separate elevators for business and for library purposes are, however, essential.

Museums or Art Galleries in Same Building. There is so rarely enough money available to allow as much room as the library wants, and there is usually so much friction in operating more than one institution under one roof, that while there is general belief in the value of museums and galleries as public undertakings, there is great unanimity among American librarians that they are better apart. Few librarians with us have the training which would fit them to undertake the superintendence of such different departments, and fewer still would like to be superintended by a musician or scientist. Yet, if together in one building, there should be one superior officer for all, even if he be called only custodian. The difficulties of planning a building to provide properly and amply for more than one of these three functions are just three times the puzzle of planning for one. Where a city wants to try it, or a donor insists on it, it is far better to plan a group of three buildings on one large lot, with such connection by arcades as would give a pleasing architectural bond, without shutting out any light, at least from the library.

Those who are interested in such combinations are referred to the English library books and magazines, *passim*. The union of libraries and museums in England, indeed, is so common as to be recognized in the Library Acts. If art or other exhibitions are a feature of the library management, they can be provided for as suggested under the head of exhibitions elsewhere.

Alterations and Enlargements. Often existing residences or halls are presented for library use. The proverb, "Never look a gift-horse in the mouth," does not apply in such cases. The gift building ought to be examined all over by experts — an expert librarian and an architect, if possible — before it is accepted. It will often be found to cost more for alteration, before the old building can be quite suited to library purposes, than a plain but satisfactory new building would cost. Certainly it is unwise to hamper library efficiency out of a sentimental regard for a donor, alive or dead.

If the building is found susceptible of inexpensive alterations, which would render it entirely suitable for such work as the library wants to do, it will evidently be unwise to trust the task to an architect, inexperienced in library alterations, or even to the advice of an immature librarian. Here, if ever, is there need, from the side of economy as well as the side of utility, of a wise library expert, for fear of making a botch.

So in making alterations in an old library building which requires enlargement, do not accept the hasty suggestions of even the most ingenious and confident trustee, or the prentice plans of a callow librarian or a young architect. Get the best plan you can secure from the best authorities. The best will be none too good for you. Justice to your successors and to the next generation requires the utmost care in piece work.

See an article by Miss Annie B. Jackson,¹ on items and expense of alterations at North Adams, Mass. The repairs there proved to outrun the estimate.

When you get your tentative plans and your rough estimates, get also a rough estimate for a new building. You will often be surprised to find how near the cost of

¹ 25 L. J. 105.

alterations will come to that of building. If it turns out so, better wait and get your ideal rather than patch up a makeshift.

But if, after deliberation, you vote to alter, there is one wise end to aim at, that is, to spend as small a part of your available funds for mere alteration, and as large a part for features which could be utilized later for a permanent building, as may be possible. Witness, for instance, the recent experience of the Salem Public Library.¹ They had pressing need of more room, but could use only \$70,000 for changes, not enough for such a new building as they wanted, or could afford while they had a perfectly sound old residence to use. But by ingenious planning, they have been able to get a stack with an administration head house, to which they can add later a main building when they need further enlargement. They have spent a minimum in temporary changes on their old dwelling-house, and have besides retained enough money to build a branch library.

Altering New Buildings. It is not only old buildings that need altering. Too frequently a good librarian, alive to progress, and faced with the problems of growth, finds himself promoted to a beautiful building of such recent erection as to be financially exhausted, and indisposed to spend money in necessary additions or alterations. The question confronts him, how get more room with the least cost?

In this fix, he will first look inside and see where he can house more books, more readers, more attendants. Here shortcomings of the architect may perhaps afford him at least temporary relief. The most likely fault he finds will be wasted space, perpendicularly or laterally. Two faults are bad; they cannot even be converted into virtues. These are domes and ornamental staircases.

¹ 87 L. J., 135.

Domes, to be sure, can be circled with galleries to which unused books can be sent—a very brief palliative. And elevators or lifts may be cut into stairs. But such makeshifts will not serve.

More opportunities may be discovered in spacious vestibules, in wide corridors, in lofty stories. The vestibules and corridors can be narrowed to simply useful width, and their exuberance partitioned off into rooms. Mezzanine floors can also utilize waste upper spaces.

If money cannot be found for partitions and floors, for iron and wood and paint, I see a good use for sliding cases, in the form Professor Little has at Bowdoin—just two or more stories of this contrivance, set out in the corner or at the side or in the middle of any useless stretch of floor.

Tables and chairs can invite an overflow of readers in any space not needed for passage; temporary wooden shelving can be set against any corridor wall; administration desks can be protruded into any architectural waste. When you go to Washington, see what Mr. Bowerman has done at the Public Library there.

B.

PRINCIPLES

*This Book groups together
rather loosely, important considerations
which as said at the bottom of page 90
ought to be reiterated and ham-
mered into the consciousness
of all concerned.*

B. PRINCIPLES

SPIRIT OF PLANNING

Every new library building should be thoroughly planned with a view to its class, scope, size, funds, site, environment, experience, and cost of administration. True economy begins with a good plan. Not only present cost but future annual costs depend on it.

The main thing in beginning to plan, even in the first consideration of building, is to set your ideal high. If your funds are not yet provided do not take it for granted that they will be meagre. Study the scope of your library, look hopefully into its future. What work should it do now; what growth should it get in the next twenty-five years? What size and area are needed to meet your utmost possibilities in that time? Consider first only the essentials — they will be costly enough. When you have made careful calculation of actual needs (and nothing else) ask your donor, town or institution for what would cover them. Do not at first include expensive material or ornament. If the body that is to pay requires elegance, calculate cost of this and present it as a separate question.

Set your ideal of utility high, and ask enough to cover it. If you cannot get it, then and not till then will be time to decide what to surrender.

If the amount to be spent is already fixed, still study ideals first. Can we get all the requisites for this library within that sum? If it is evidently impossible; if building thus would stifle usefulness or stunt growth, ask for more. But if you cannot get it, or if you think the appropriation can be made to cover the work, the ideal to aim at is to pack into the building ample accommodation for every function you will need to cover.

Above all, make these calculations ahead. When the sum is finally fixed, resolve to plan so carefully that the final cost will come within the appropriation. Like a note to pay, this obligation is peremptory.

"The main ideas are, compact stowing to save space, and short distances to save time." — *Winsor*.¹

This axiom written a generation ago would serve to head this chapter now. Also this, "In building, as in management, the wants of the great masses of the public must be kept constantly in view." — *Poole*.²

"The evolution of a design is not such a simple matter that the finished idea can be produced in a short time, but it must depend on a gradual evolution, based upon a thorough study of the local conditions." — *Pallon*.³

"A building can be made both beautiful from the architect's standpoint and useful from that of its occupant, by constant consultation between them, by comparison of views at every point, and by intelligent compromise whenever this is found to be necessary."

— *Bostwick*.⁴

¹ P. L. 1876, p. 406.

² *Idem*, p. 479.

³ 6 P. L. 203.

⁴ p. 270.

Taste, Tact, Thrift, Thoroughness

The spirit of planning is summarized in the apothegm on the frontispiece of this volume.

Tastefully. Although Vitruvius reckons beauty third and last among the requisites of building, I can put taste first, because good taste covers both beauty and use and should be the prevailing characteristic of every detail of a library building.

Tactfully. Webster defines tactful as a discerning sense of what is right, proper, or judicious, and this sense applied to the details of library planning would certainly tend to perfection.

Thriftily. "Economical management" should be the keynote embodied in every detail of library building.

Thoroughly. This should be the pervading and controlling spirit. Plan to the very end; aim for the very best; slight no least detail.

This is so essential to proper planning that it deserves a separate chapter. To lack of thoroughness on the part of building committees, much of the disappointing character of existing buildings is due. They choose an architect directly or by competition, and give him inadequate guidance in his task.

An architect knows much, especially where to look for knowledge, but it is too much to expect him to master in a month or a year, together with a score of other investigations, the intricacies of a complex and rapidly developing science in which only a few librarians are expert after a lifetime of study and practice.

The committees, not experts themselves, have not secured a library expert to formulate their problems thoroughly. Perhaps they have delegated to their own librarian a branch of library science which he does not know by experience, and cannot be expected to learn in a short time by study; especially as his normal duties of running the library fully fill all his waking hours, and part of his dreams. It is not so much a lack of thoroughness on the part of the committee as an entire lack of comprehension of how much there is to be thorough about.

Use Every Inch of Space. Begin at the foundation and study every detail. Study every entrance, passage, stairway, room, floor, piece of furniture, stretch of shelving, up to the roof; sketch as you go, sketch not loosely but to scale. Fit your parts together; leave no waste space, no dark corner unutilized. Measure zealously and save every inch of length, breadth and height; every useless cubic inch costs money and wastes room. Plan a closet under every open staircase. Watch especially the height of every story and every room. Do not allow any foot of height not imperatively demanded for light or ventilation. Allow nothing for mere architectural effect. Search even attic and ceiling to utilize unutilized corners. Do not blame the architect, blame yourself, the library expert, for any waste of space and money.

Economy Paramount

In public buildings, the duty of rigid economy is clear,—economy in cost, economy in space, provision for economy in administration. Even with a lavish donor, his generosity should be guarded by economy, especially if he does not endow his institution lavishly enough to provide for upkeep and efficient management. This is an age of extravagance, not only the extravagance of luxury, but that of necessity. With invention and improved comforts of living, the luxuries of our fathers have become the necessities of our children. This is just as true of libraries as of households. Even with larger incomes than our fathers, we have to be economical to live in health and comfort. With libraries and with families as their income increases their wants increase—they never have enough. Especially is forethought needed in building a larger house. Do not spend too much on it; do not build it beyond your means. But get everything into it you can reasonably afford to use. So with a library building. If you have a given sum to spend, plan very carefully to get all possible space and convenience for the cost. If you are planning to ask for an appropriation or a gift, plan carefully to ask for no more than you actually need;—your needs are sure to require as much as you can afford. The tendency to extravagance is even more marked in public buildings than in private life. Except in the case of rich men who feel the increased burden of taxation, the average citizen is apt to vote money for schools and libraries and city halls, without careful enough inquiry into details and with rather a liking for show. But every

real friend of libraries ought to oppose extravagance as watchfully as he would oppose parsimony, and plan so that a given amount of money will do the most good. Use and not show should be his motto. Treat the library liberally, but do not allow the library building to take so much as to cramp the other good work of the community.

"One of the most difficult features of the problem is adapting the views of librarian and board to the cost limit." — *Hamlin*.¹

"Plan well within your limit; extra wants will come up as you progress." — *Eastman*.

¹ 31 L. J. Conf. 62.

Cost of Running

Not only first cost but future annual cost of administration, depends upon careful planning of the building. Care and repairs of expensive material and ornament; cleaning, heating and lighting useless floor space or height; inconvenience in use; separation of departments, will require more attendants and more money, with worse service to the public.

"Extravagance in library building is not so often found in lavish ornament as in that unfortunate arrangement of departments which requires three attendants to do the work of one or two." — *Eastman*.¹

"The salary of an extra attendant represents the interest on a sum which would go far to make the arrangement of the parts of the building what it should be." — *Fletcher*.²

Duff-Brown³ calculates that lighting, heating, repairs and cleaning cost from 13 to 16 per cent of the annual appropriation for a library. This percentage can be kept to its lowest limit by good planning, or increased by bad planning.

"A plan most economical in cost of building is often most economical in cost of working." — *Champneys*.⁴

"A simple plan is better and more economical." — *Eastman*.⁵

Not only economy of construction but economy of administration is imperatively demanded.

¹ 28 L. J. Conf. 41. ² p. 48. ³ p. 32. ⁴ p. 134. ⁵ p. 84.

The Worst Extravagances

The very worst possible waste in building a library is doubtless unduly expensive material and unnecessary ornament. These items often mount up into tens and even hundreds of thousands. They are worse than mere waste, they are positive detriments.

The next worst is perhaps architectural competitions, which are spoken of at length elsewhere.¹ They are sure to cost a deal: payment for an advisory architect, payment of prizes, payment of the jury. Here again there is more than waste, there is delay, a false start, deliberate care to put exterior before interior.

The third common extravagance is parsimony in experts' fees. Champneys¹ in speaking of architects' errors, says that "to this fact must be attributed the suggestion that librarians should dispense with the services of architects, and design their buildings for themselves." This suggestion may have been made in England, but never in America, even in acute periods of despair over the trend of building. No American librarian, no building committee, would think of dispensing with an architect, though they might try to economize by getting a cheap one.

But it is just as wasteful to cheapen your library adviser as your architect. Because it has a librarian already, or because the architect chosen is willing to tackle the job without expert advice (perhaps more readily because he resents advice), or because it is inclined to condemn and resent advice itself, the committee often commits willful extravagance at the outset, saving at the spigot to waste at the bung, by going poorly equipped into a serious task.

¹ See later, p. 143.

¹ p. 2.

Economy of Expert Advice

But "penny wise is pound foolish." Saving first cost is not always true economy. It would be foolish indeed to save on architect's fees. For a little one-room wooden building, to be sure, a local carpenter might do, under the supervision of a clever librarian or a practical trustee. But as soon as the building gets complex, get an architect. His fees will save enough in convenience, in comfort, in grace, in beauty, in actual money outgo to contractors, to prove themselves the best economy. Just so, as the problem gets still larger and more complex, get the advice of an expert librarian to help present it to the architect. He will more than earn his fees by keeping down useless waste of space; by pointing out how to economize in running expenses; by aiding the architect to enhance the beauty of the building; by promoting and thus expressing its true purposes.

I have now had some personal experience in this matter which I will put into percentages. From what I have seen, I not only believe, but know, that one per cent of the cost of building, put into employing a really competent expert librarian, will save from ten per cent to forty per cent on the cost, in space, convenience and material. If you doubt, why not verify the facts by inquiring of some trustees or donors who have tried the experiment? They are surely unprejudiced and credible witnesses. One per cent spent in saving ten per cent is a net economy, worth at least considering.

This principle, first applied to library matters by Henry J. Carr in 1891, has been recognized recently by the Mayor of Rochester. Having in hand the establishment of a central library and a system of branches, he sent for a leading librarian of great experience, got his advice, for which a liberal fee was paid, and no doubt thus saved for the city thousands of dollars which might otherwise have been wasted in experiments and bungling.

"The internal arrangements should be devised by a person practically acquainted with the working of such a library as the building is intended to accommodate, and not by architects or building committees" (or inexperienced librarians) "without such experimental knowledge." — *Fletcher*.¹

"There is an increasing disposition in planning libraries, to turn to experts." — *Foster*.²

No experienced librarian would allow without vigorous protest such waste of space and money as is referred to in the *Boston Transcript*³ thus: "The increased cost of administration in some of the newer palatial library buildings is alarming. In one, the cost was nearly threefold, in another nearly fourfold what it was before." This might have been saved, or at least largely reduced, by paying a modest fee to a good expert.

Calculate the cost of each cubic foot of wasted space, the cost for twenty years to come of lighting, heating, cleaning and repairs for useless space; the salary of additional attendants to care for unnecessary processes, and you will find that economizing on advice will waste thousands of dollars.

¹ P. L. 1876, p. 407. ² 23 L. J. Conf. 23. ³ May, 1900.

Problem Always New

It is folly to try to copy except perhaps in a minimum grade library — in embryo or rudimentary form. Perhaps in a very small and remote community, without a trained librarian, with no experienced librarians near, and far from a library commission, it would be safe to ask a local builder or carpenter to duplicate some small building pictured in such a manual as I have suggested, by Miss Marvin and Mr. Eastman. But never except in the smallest grade.

Even among the libraries usually called small, there are differences of site, location, community, state of development, size, methods, aims, funds, prospects of growth, which will distinguish or should distinguish each new building from all other buildings. As soon as a library begins to have a character of its own — and this development comes early in America — its library problem merits and absolutely requires independent study. Every community, every institution, wants to have a library suited exactly to its characteristics, and the library should have a building suited exactly to its character.

"The problem presented to an architect by a library board is always essentially new." — *Mauran*.¹

"Special and local conditions place a new problem before the builder every time." — *O. Bluemner*.²

¹26 L. J. Conf. 45. ²3 P. L. 336.

Plan Inside First

Librarian and architect should collaborate from the beginning in every interior detail. The exterior should not even be considered until the interior has been entirely mapped out.

This elemental maxim does not appear to have been laid down until the formulation of the "Points of Agreement." Indeed, the first mistakes in building libraries, and the mistakes still too often made, may be attributed largely to the search for precedents in style, the formulation of the exterior before what it is to hold or express is defined. Most architectural competitions (except those held to dodge responsibility in selecting an architect) arise from an impression on the part of the building committee and the board and community they represent, that the looks of the library building, the effect it makes on the public, is the main thing to secure, not so much the proper housing and handling of the books.

The whole argument of this volume is that a library *is a library*, a book- and study-workshop or factory; only incidentally an ornament; no more, certainly, than a schoolhouse needs to be. If so, its motives are all utilitarian, to be studied out first of all, thoroughly and faithfully, before a thought is given to exterior conditions, or any details of exterior or interior ornament. This consideration should be reiterated and hammered into the consciousness of all concerned — architect, committee, community.

"Taking into account the practical uses of the modern library, it is readily seen that it needs a building planned

from inside and not from without, dictated by convenience rather than taste, no matter how good." — *Fletcher*.¹

"Consider the plans first, rather than the elevation. The outside of the library building is its least important feature." — *Duff-Brown*.²

The buildings planned thus, by gradual development of ideal interior arrangements, are very likely in the hands of a skillful architect to turn out architecturally beautiful. For the designer, as he has advised about structural points has gradually evolved from these details a harmonious conception of what the library is to be and do, the relation it holds to its surroundings and to the public, until an ideal scheme of proportion and sympathy flashes into his mind, and *Utilitas* has led him up to complete *Venustas*.

¹ p. 48. ² p. 81.

Never Copy Blindly

I should not suppose that any building committee would be senseless enough to "convey" an exterior from another building labelled "library," and try to cram their own institution into it, but in reading a recent number of *The Librarian* of London, I found this paragraph:¹ "Within the last few weeks the surveyor was instructed to draw plans from a photograph of another institution. . . . Without knowing all the factors going to the making of the plan of a library in another part of the country it would be impossible to say, without consultation, that they would be suitable for the particular circumstances of this one." But it is not necessary to go so far abroad for a warning. We all remember that eminent trustees and a distinguished architect went farther to appropriate a design, and imitate it here in America — not often accused of poverty of invention. The cult that admired it, admired it so much as to copy their borrowed work for buildings they labelled "libraries" all over the United States. If you do not realize the fidelity of this "copy," and if you own Champney's "Public Libraries," look at page 134, "The Boston Public Library," and then turn to "Bibliothèque Ste. Geneviève, Paris," opposite page 139. And if you have Burgoyne's "Library Construction," read pages 255 to 257, which reflect in mild and courteous terms the criticisms of American librarians on this architectural plagiarism. To recall the criticisms of Winsor, or Poole, or Cutter, would not be so mild.

¹ Vol. 2, p. 231.

As a result of similar mistakes, librarians are united as to slavish imitations of exteriors or interiors, but perhaps some small libraries might be willing to copy an interior arrangement more or less closely. Before doing so, however, they should secure overwhelming testimony as to the practical merits of the plan as adapted to new needs; and even then a practical librarian and architect could probably find modifications which would make it more thoroughly fitted to all local conditions. Certainly another plan ought not be copied until after careful consideration of all present and anticipated requirements of the problem in hand.

"No library can be successfully imitated from another." — *W. A. Otis* (architect).¹

"No model plan can be said to be best." — *Burgoyne*.²

"It is useless to attempt setting forward an ideal plan." — *O. Bluemner*.³

"A building committee is not likely to secure what it wants by copying or even by competition." — *Eastman*.⁴

Study precedents always and thoroughly, but do not try to follow any of them implicitly, nor expect to find a type or model you can imitate.

¹ 8 P. L. 206. ² 8 The Libr. Asso. Record 178.

³ 3 P. L. 336. ⁴ 26 L. J. Conf. p. 41.

Study of Other Libraries

By Visit. The best preparation for planning, and later the best test and corrective of your plans, will lie in visits to other libraries of like grade, size, character, and constituency as your own, especially if their librarians are intelligent, experienced, and thoroughly frank about both the merits and the faults of their buildings, and will tell you what to avoid as well as what to imitate. Observe carefully (with note-book and pencil in hand) size and collocation of rooms; height of walls; dimensions and make of furniture; suitability and finish of all materials; effect of coloring; placing and size of windows; distribution, effectiveness, and economy of artificial lights; all the various points which will aid you in solving your own problems. Carry a measuring tape, and get all dimensions down to scale. If your architect can go with you, at least on a second or review trip, so much the better. If he cannot do this, have specific recommendations ready for him at your next conference.

Examining Plans. Next to personal visits, intelligent inspection and comparison of plans will help you after you have gone some way toward formulating your own plans. I would not advise too premature, or too promiscuous study of plans. There are so many accessible to a searcher, of so many different grades, and such varying degrees of excellence, that indiscriminate and reckless inspection is very apt to bring on mental dyspepsia.

Disregard at first exteriors, which distract attention from essentials. Confine yourself to floor plans and interiors of libraries of your own size and class. Prefer-

ably take modern plans, certainly those of leading libraries in all sections which are imbued with the modern progressive ideas. You will find no lack of material. If you use it wisely and eclectically, it will help clarify your ideas. Note the plans which seem to you best; go back to them again and again; at each study discard those which are less satisfactory; and when you have reduced your list to a few very nearly right, compare them with your own sketches until you are quite sure that you have incorporated all their best points.

You will not perhaps have much access to English books. If you do you will find interesting views and plans in Duff-Brown, Burgoyne, Champneys, and Cotgreave; but they will hardly help you much, because English methods are somewhat different from ours. Some late plans for large libraries, given in "The Librarian," seem to show wasteful attempts at architectural effect. Three things in the plans of small English libraries, you will note, and should learn from — the clever adaptation of irregular sites, the effective use of top-light, and the economy of space in entrance halls.

In America there are plans in plenty. The most helpful are the most recent.

Koch has over a hundred plans from all parts of the country, including branches, most of them costing from \$10,000 to \$50,000. But as yet he has no letter-press to explain the plans.

Miss Marvin gives exterior and interior views and floor plans, with full descriptions of twenty libraries, costing from \$2,600 up to \$75,000. No one should plan a library of any size without giving her pamphlet a careful reading.

Eastman gives exteriors, interiors and floor plans of twenty-five libraries, ranging in cost from \$1,170 to \$80,000.

H. B. Adams has twenty-five exteriors, forty interiors and only thirteen floor plans. Bostwick has seven floor plans.

The Massachusetts Public Library Commission Report for 1899 shows one hundred and twenty exteriors, with letter-press giving costs, but no interiors or floor plans.

The Boston Public Library Index to Plans of Library Buildings, second edition 1899, refers to over twelve hundred illustrations in various books, pamphlets and periodicals, of which the largest number are only exteriors, a few are interiors, one hundred and twenty only are floor plans.

There are many exteriors of libraries, usually without interiors or floor plans, published in popular and in architectural periodicals, but very few of them furnish valuable suggestions as to planning. Indeed much plan hunting will rather daze than instruct an investigator. A common defect in plans is the total absence of information about the height of rooms — a vital measurement. Indeed every plan should tell, both the height of each story, floor to floor, and the height of each room, floor to ceiling.

There are many interesting plans, with descriptions, scattered among annual or special library reports, but these have not been indexed together in any one place. If one of the library-schools could compile as a thesis, an index to plans of library buildings in books and magazines, distinguishing between exteriors, interiors, floor plans and letter-press information, and if someone like Mr. Eastman or Miss Marvin could supply comments as a guide through this mass of material, it would be a good thing for the A. L. A. Publishing Board to father. The A. L. A. itself once attempted to get a collection of floor plans and got about a hundred sets as a start, but I believe has never prepared any such card-index of features, with such comments as would make them valuable. I believe the Library Bureau has also a considerable collection of plans.

The Life of a Library Building

This is a crucial question in problems of building. In a recent discussion as to how much should be appropriated a trustee soberly urged that the library should have the finest, the most impressive, the most beautiful building in town, and that it should be built solidly enough to last hundreds of years, like the mediæval cathedrals. But besides the question of first cost, how far can a town afford to go in its expenditure for a library, while it has schools to build, roads to improve, sewers to lay, parks and playgrounds to develop? Besides this comes the question whether it is wise to erect such barriers to change as the walls and partitions of a too solid building would offer.

Opinion of librarians is practically unanimous to the effect that growth or change of methods will bring need of alterations, additions, or entire rebuilding, in all active libraries in less than a generation. Thus,—

"Librarians are among the most progressive of the world's workers and a library building, however well arranged, may be out of date in a year or so." — *Edward B. Green.*¹

"You cannot foresee the future. Provide for ten years". (in a small library). — *Miss Marvin.*

"Estimate growth for twenty years." — *Eastman.*

"It is not only unnecessary but unwise to plan for more than thirty years ahead, because library administration may radically change."²

¹ 6 P. L. 602.

² 17 L. J. 125.

"Twenty-five years will probably find your building out of date, out of place, and a burden." — *Dana*.¹

In England the Manchester library outgrew its building in forty-three years; at Leeds, in twenty-three years; at Glasgow, in twenty years; at Birmingham, in thirty years." — *Burg.*²

My own calculations have been made for twenty-five years and I should call this the life of the average library building. Unless in very stagnant institutions and communities, there is sure to come, in much less than that time, say in five or ten years, growth in books or in use, requiring enlargement; again, equal growth in the next five, or ten years. Then the enlargements become entirely inadequate to new conditions or new management, and by the time the building has been occupied twenty-five years the trustees are fortunate if they have so little money invested that they can afford to pull it down and build a more modern building, arranged according to the latest ideas for the latest wants.

On the other hand an institution or a town may have money given it by a donor who wants a handsome and solid building. The question will then arise, "How compromise between certainty of change, and desire for permanence?" Why not in such case do what has been suggested for college libraries — put up a fine façade, to last a century or more, and use modern methods of light construction for all behind it; thus combining architectural effect with ease of alteration?

¹ p. 6. ² p. 8.

The Time to Build

Don't Build too Soon. All authorities warn against building prematurely.

"It is a risky undertaking for a board to erect a building in the first stage of their enterprise. Better wait until its wants are developed in temporary quarters." — *Wm. F. Poole*.¹

"Don't build until you have the library, the librarian, and the money." — *J. C. Dana*.²

"Get your librarian, books, and methods first. Use rented rooms until you know what you want. Almost any rooms can be made to serve as a beginning, and can be so planned that the fixtures and furniture are all available for a new building. Experience will then teach just the kind of building that is needed for that particular town and library."³

Alter Sparingly. In a building given you already occupied, make such not too expensive enlargements or alterations as growth absolutely demands, but take a long look ahead toward rebuilding. With the changes in library methods developing so rapidly, a patched old building soon becomes hopelessly out of date, and clogs progress. Better save up money and cultivate opinion in favor of building anew. Looking a generation ahead, economy alone will demand, at some not distant time, a building in which economy of time and service will be possible. Do not go down to posterity in patched-up old clothes.

¹ P. L. 1876, 484. ² 36 L. J. 189. ³ 1 Library Notes, 177.

But Begin to Prepare Early. As soon as your librarian is selected, your books bought, and your method started, it is never too early to think and talk building. It will take a long time of fixed purpose to work up to a gift or an appropriation. To canvass merits of sites, to study precedents of management, to calculate chances of development, to educate your librarian, to watch and ask about architects, to pick out deliberately the ideal building committee, will occupy many interesting hours at board meetings and consume months or years of preparation. While you are about it, time so taken will allow you to accumulate a lot of information, and to mature your judgment. If you have your librarian get him to look up the files of the library journals, and the annual reports of libraries of your grade and class, and such as are rather ahead of you, who have already realized what your future may be. In these you will pick up here and there many useful hints of experience. If you go to library club meetings and talk with trustees and librarians with similar problems to yours; if you take an occasional leisurely jaunt to well-managed neighboring libraries, you will absorb and be able to digest ideas which a hurried search, after beginning to build, might not elicit just when you want to use them.

And do not Put Off too Long. But when you are ready, go! Patient preparation has fitted all for wise decision and prompt action. There is a psychological moment at which public or donor may be carried by storm, and the necessary funds can be secured. He who hesitates then, is surely lost. When the money is secured, and sufficient experience or advice has been accumulated, the sooner you decide to begin to plan, the better. Beginning to plan, however, is remote from actual building. "Well lathered is half shaved"

is a homely proverb, and the analogy holds in library planning, even for the smallest building. Months to formulate and fit together the first sketches, months to work them out practically with the architect, many conferences with the building committee, time after decision to prepare working plans, time still to invite and compare bids, then the slow processes of building, — there is a deal of delay ahead after the decision is made to build. You have just about got half through when you finish these preliminaries.

The time to build is therefore when you are very sure everything is ripe for action; — methods, preparation, plans, enthusiasm, harmony, good advice, suitable agents, sufficient funds.

Size and Cost

At the outset either the cost must be estimated as the first step toward getting an appropriation, a subscription, or a donation; or the cost has already been provided for, and the first step must be to see how large a building it will allow.

In the former alternative, it is necessary to ascertain how many books are to be provided for, how many readers there may be in the several departments to be covered by the work of that particular library, and how large a staff can be afforded, with ample elbow room for them all. The figures thus collected will enable an expert to give the number of rooms and passages required, with a maximum and minimum size, and a tentative location of each room. By deciding on the number of stories and the height of each, the architect can then pack all into the least possible space and calculate first the area of each floor and the cubic contents and cost of an adequate building, to be verified by the average cost of similar libraries in similar locations, built under similar conditions. A rough but surprisingly close estimate of the proper limit of cost may be reached through reversing Carnegie's stipulation for a pledge of an annual ten per cent on cost for running expenses; and taking ten times what the library costs a year to run, or will take after completion. The result is testimony to the wisdom of Mr. Carnegie's library advisers.

In the latter alternative the librarian and architect can at once get an approximation to a size which the cost will allow by dividing the sum available by the same *pro forma* cost per cubic foot. Having thus arrived

at the maximum of size, they can tentatively assume the height and divide the cubic contents by it, to find how many square feet can be afforded to a floor. After this comes the puzzle how to get into this space the proper collocation of all the rooms wanted, as large as they ought to be.

See interesting calculation as to number of users to be provided for in the different departments (in England, not quite the same as ours) for towns of various sizes, by Champneys,¹ quoting Duff-Brown. His tables may suggest a basis of calculation here. See also Duff-Brown in his own book.²

The Cubic Cost. This question is not difficult, if you can reach a fairly exact standard for cost per cubic foot. Of course this will vary with the material used, and with the cost both of material and labor in different localities. Various authorities quote it variously. In the problems I have personally investigated, in eastern New England, I have found that thirty-five cents cost per cubic foot, for a simple warehouse-construction building, including stack and furniture, was not too much to allow. But Miss Marvin³ says that in the Middle West the building proper will cost from 11 to 14 cents per cubic foot, or large solid buildings 20 to 25 cents, plus 10 per cent of the total for fees, furniture and finishing. As I always include these items in my calculations, the estimates are not far apart.

Our English brethren are able to do somewhat better if Champneys is correct—he ought to be, he is an architect. He says, "As a general rule, 1s. per cubic foot is probably about the right allowance in London, if all fixtures are included, while 9d. or 10d., or less, is sometimes sufficient in the provinces.⁴ Perhaps, however, he does not include fees and furnishing.

¹ p. 139.

² pp. 89-92.

³ p. 10.

⁴ p. 141.

To calculate cubes, outside measurements of the walls should be taken for the square area, and the height should be measured from the floor of the basement to the roof, or to half-way from eaves to ridge-pole, if the roof is not flat.

Limiting Annual Outlay. In planning remember to watch not only first cost, but future expense of running your library. The more expensive your material, the larger its maintenance will probably be for care and repair. The larger your halls and stairways, the more diffuse your rooms, the farther departments are separated, the more wasteful your heating and lighting, the more your service will cost. Good planning may easily save you ten per cent on first cost, and twenty per cent every year for the life of the building — a whole generation. Calculate this saving for yourself, and be careful!

"It is impossible to have good administration without a building properly planned." — *The Libr. Asst.*¹

An architect generally overlooks those essentials which may appear trivial, yet are of the greatest importance.
— *Ibid.*

Cutting Down Cost. From the first a wise planner will study to limit expense in every detail. After all possible economy, however, the wants will so outrun the possibilities, that when architect and librarian and adviser have agreed on a plan and it has been accepted by the building committee, the first experimental estimates will go beyond the limit.

On what points will it be possible to cut down, without serious sacrifice, from the library point of view?

In the first place, *size*. As cost is largely in proportion to cubic contents, every cubic foot saved pares down expense. It will generally be hard to spare

¹ Vol. 4, p. 83.

floor area anywhere, but there can often be reduction of height in rooms or floors. The only real library requisites of height are air-capacity, and reach of light from windows across rooms. The architect often wants certain heights for architectural effect,—but always try to pin him down to what is actually necessary for comfort in every room, and point out where mezzanine rooms would serve in high stories.

In the next place comes ornament, exterior and interior. In the John Hay library at Brown University, several thousand dollars' expense was saved by omitting the cornice around the outside rear wall of the stack room, without sacrifice of effect. In the Brookline cut-down,¹ several thousand dollars were saved by omitting two ornamental but superfluous gardens outside.

In a city, try to get the park department to assume the cost of laying out the library grounds.

Then the entrance and halls and staircases, as originally sketched, will be often found unnecessarily large when tested by library requirements. At Brookline the larger part of the saving was made on such extras. Outside steps, platform, columns, cornices, balustrades and the like, are often superfluous.

On material, again, much permissible saving can be made. Inquiry of the architect will elicit that less expensive material or finish will give as much strength, durability and also as good effect as the first choice.

"Shingles instead of slate, plain glass instead of plate glass, cheaper brick, cheaper finish, omitting fireplaces, using wood floors instead of tile." — *Miss Marvin*.²

"Don't waste money in too substantial construction and fireproofing." — *Stanley*.³

¹ \$400,000 to \$250,000. See 33 L. J. 428 and 442.

² pp. 59, 102. ³ 14 L. J. 264.

When the inquiry is made of him, the architect will usually prove to be suggestive as to economies. He will be much more interested in savings than in extravagance, and he knows just where savings can be made without real sacrifice of strength, utility, or beauty. In fact, it is here and in suggestion of alternatives in meeting library needs, that a practical architect will often surprise the librarian.

Indeed, I have been surprised myself in finding how keen an architect can be when this question comes up. One would think he would hate not only to forego any of his commission, but also to give up what seem to be essential elements in a harmonious scheme. But in all economies of this kind in which I have taken part, the architect has thrown himself into problems of saving with as much zeal as if he were to benefit rather than the owner.

Open Access

The admission of readers freely to the shelving, both readers who want to select books to borrow for home-reading, and those who wish to select from the shelves books for serious reading in the building, has become a common policy of libraries under the name of "open access."

For the benefit of borrowers of new books, popular books or late fiction (in children's rooms, children's books), open-access rooms are usually provided with wall or floor shelving, or alcoves so widely spaced as to allow free inspection of the books. Where there is not a separate room or suite of rooms, there is a corner of the light-reading room shelved for this use.

See "Carrels"¹ as to open access to the stack.

"Let the shelves be open, and the public admitted to them. Give the people such liberty with their own collection of books as the bookseller gives them with his." — *Dana*.²

This development of use has changed the problems of planning in our generation more than any other new idea, as will be realized in looking at floor-plans of any of the old libraries.

The decision of the librarian and the trustees as to what policy is to be adopted in all parts of the building in relation to open access will largely govern planning of all the departments. Even after a decision is given, the question will arise, "Ought provision be made for possible changes of method in future?"

¹ p. 286 of this volume.

² L. P. p. 15.

Light, Warmth, Fresh Air

After the library is finished, the staff will have to work and the public to read in it.

The eyesight of everyone that enters the building is dependent on the steady soft incidence, reflection, diffusion, concentration, abundance, of natural and artificial light supplied; their comfort summer and winter depends on the amount of heat tempered or admitted; the clearness of their brains, their ability to read and comprehend depends on methods of ventilation; the permanent health of all obliged to stay any length of time in the library may be seriously affected by the care or neglect of those who plan these vital elements of construction. Better have the building plain, even ugly, with these essentials perfect, than impressive and elegant without them.

From the very first, in planning small or medium, the large, or the largest libraries — in corridors, rooms, halls, or stacks,— ponder these needs as you go on, seek defects or merits in these directions as you visit other buildings; set aside sufficient time for special and deliberate study and review of these problems, librarian, adviser and architect in solemn conclave, and resolve to have your building, in these particulars at least, the best one not only in your own state, but in America and in the world.

As is elsewhere urged again and again, spend what money you have to spare, in such essentials, rather than in the luxuries of unnecessarily expensive material, decoration, or furniture.

See special chapters, later on, on Lighting, Heating, and Ventilation.

Faults to be Looked For

In visiting other libraries or looking at other plans, the virtues are sometimes hard to detect, but there are some faults even a novice can see. For instance—

Heaviness or embellishment of exterior, unsuited to a library.

Arched or pointed, mullioned or leaded windows, obstructive of light.

Domes, with rotundas beneath.

Columns and porticoes.

Overhanging roofs or cornices.

Stories, corridors, or rooms, unnecessarily high in the walls.

Waste of floor space.

Ornamental and excessively broad or massive stairways.

Stairs and corridors separating rooms which should adjoin.

Poor light anywhere; light in the eyes of readers instead of on the backs or pages of books.

Drafts, or absence of air.

These are a few common faults; any good librarian can suggest others from his or her own experience.

As the classes of library schools go about visiting libraries, it would be well to have some expert instructor or guide point out obvious faults of construction. The local librarian could best show merits. Special reports or theses on buildings would advance the cause of rational planning among the coming generation of librarians.

Frankness Among Librarians

A certain amount of reticence among librarians in talking about faults of their own buildings to visitors, leads me to write this chapter. Whether it is due to diffidence in posing as critics without enough experience, or more likely to a spirit of loyalty to their institution, I have not been able to determine. But certainly such a spirit is disloyal to the cause of library science. No progress can be made in building if every librarian must act only on his own experience for his own building. Every sensible man can see the good, the bad and the indifferent among the tools put into his hands. Every practical man can suggest corrections of faults, perfection of the mediocre, even improvement of the good. When a brother-librarian who is about to build comes to ask advice and look over methods and means, the largest loyalty is due to one's profession and the public, and the incumbent ought to give full benefit of his experience and his opinion to the visitor, under the pledge of silence if he wishes, but concealing nothing. His opinions may be mistaken, his experience slender, but the very statement will challenge the judgment of the inquirer and enlarge the scope of his vision.

So the visitor in his turn, after going through his planning, and occupying his new library, ought to pass the methods he has selected, minutely in review, and speak or write of them to visitors, at clubs, or in professional periodicals, with like frankness. If he will be candid about his own experience, a librarian who has just built may be the wisest critic possible, and may doubly help those who follow in his path.

He who has experimented with a new device or a new method, if he tests thoroughly, impartially and sanely, can be especially useful to his fellows by frankness in reporting his praise or criticism.

Indeed, every experienced librarian who is also ingenious, ought to try experiments as he has the opportunity, not only in methods but in appliances. A hundred bright minds, working in the same direction, will be sure to hit upon new devices which will simplify processes and better the building and furnishing of years to come.

Service and Supervision

These are underlying elements of library planning which only a librarian who has practised them thoroughly understands. Even the "library architect" may fail to grasp these on a new problem.

"Have the building convenient for both work and supervision, where many a costly building fails. Have all departments in harmonious relations, so as to serve the public best, and at least cost in money, time, and labor." —*Eastman*.¹

Service. Short lines for every process are the essential. There has been rather a tendency among architects to imagine that modern contrivances can overcome space, but every step, every motion, takes time; every step, every motion saved, promotes efficient service, and keeps the public waiting a second less. If you use pages or "runners," plan to shorten their runs. If you use mechanical substitutes, speed them up, run them on straight lines, avoid complications and corners. Study every motion, every handling of a book in all the processes of a library, and save a second here and a second there. In sizable buildings, you will thus be able to save not only minutes but often hours through every work day of their future. "Many a mickle saves a muckle," is true of packing, passing, cataloguing, handling, cleaning, collecting, distributing.

Do not be deceived by the suggestion that labor-saving devices change principles. A yard is more than a foot, by machine as well as by boy. Save time on machines as on pages. Your needs will soon outrun both.

¹26 L. J. Conf. 43.

Supervision. "Helpfulness should be aimed at, rather than supervision," says Champneys,¹ and certainly it should be aimed at *with* supervision. Accessibility to helpless inquirers invites as well as facilitates easy inquiries. But in America we find that supervision deters as well as detects disorder, noise, mutilation, theft.

Duff-Brown² calls attention to one aid not often thought of,—the supervision of one reader over another. This acts where students and serious readers congregate, but somewhat fails in periodical and light-reading and children's rooms. There supervision is more necessary.

In small libraries, supervision from the delivery desk is all that is generally possible. It can be facilitated by open floors, glass screens, avoidance of corners or projections, and radial bookcases. In larger libraries, provision for attendants at strategic points, such as corners which command adjoining rooms, can be so arranged as to help and supervise with minimum service. A well-arranged desk for each attendant placed thus on picket, will enable him or her to pursue any assigned desk work, without interfering with supervision or information.

Supervision of doors, entrance halls and stairways, is most necessary;—in small libraries, from the desk; in large libraries, through hall porters, who can also watch art treasures and exhibition cases, as well as direct visitors, and avert undesirables.

¹ p. 133. ² p. 101.

Decoration: Ornament

Ornament is the last thing to think of about a library. Noticeable exterior ornament is not needed for dignity, and conflicts with simplicity, two appropriate library qualities. "Outside ornament is often vulgar," says Champneys.¹ Even statuary is not in keeping unless the building has memorial purposes, for which additional funds have been provided. Inside attempts at ornament are often grotesque. Marble columns are out of place, marble walls and staircases showy rather than sensible, wall or ceiling frescoes distracting, floor inlays disconcerting. If funds allow, such features and portraits in vestibules, passage-ways and conversation rooms do not interfere with reading or service. Portraits of donors or deceased trustees or librarians may do in delivery-rooms or light-reading rooms in which exigencies of use require high enough walls and few enough windows to leave available wall space. But in rooms for serious reading, there should be no features of any kind to interfere with reading or attract non-readers. Burgoyne comments,² "In Boston, the decorative art makes the public rooms art galleries instead of places for study. The two objects are quite incompatible. The crowds who gather to inspect the decorations are a nuisance to the student who comes to study." See also the Report of the Examiners of the Boston Public Library in 1895.

"In the reading rooms, ornament which attracts the eye and creates interest, is a hindrance to the usefulness of the rooms." — *Beresford Pite.*³

¹ p. 137.

² p. 257.

³ Int. Conf. (1907) 108.

"Interior decoration should be subordinated to the use of the building." — *Champneys*.¹

Isadore, Bishop of Seville² (A.D. 600) says that "The best architects object to gilded ceilings in libraries, and to any other marble than cipollino for the floor, because the glitter of gold is hurtful to the eyes, while the green of cipollino is restful to them."

From this it appears that the architects of that age were more considerate of readers than some in our own generation.

Coloring. I would draw a distinction between ornament and decorous decoration. If as much attention be given to the æsthetic influence as to the irradiating and ophthalmic effects of shades of color on wall and ceiling, the resulting beauty would at the same time charm, soothe and satisfy all visitors. Sufficient study is rarely ever given to this element of "Venustas." In one of my own early problems, I employed a young artist who had a reputation as a colorist, to select tints for different rooms, with a result which fully justified the small fee he charged.

See four tints suggested at page 15 of the Boston report, mentioned under "Light, Artificial."³ From that report,⁴ I quote: —

"For bright, sunny rooms a very light green is probably the best shade."

"For darker rooms, a light buff."

"The ceiling should be white, or slightly tinted."

"The woodwork should be of a light color such as that of natural woods. *Under no circumstances* are dark walls and woodwork permissible."

(This applies to schoolrooms, but what applies to scholars equally applies to readers in libraries, and these precepts apply to furniture as well as to the other woodwork.)

¹ p. 137. ² Clark, p. 41. ³ p. 205 of this volume. ⁴ p. 7.

Miss Marvin¹ suggests that, —

"Green, yellow, terra-cotta, light brown, and tan are good."

"No decoration is necessary except tinting." [Excellent.]

"Corticene or burlap is good background for pictures."

"Only one color is desirable for the interior of a small library."

Reflection of light. Not only is color of walls and ceiling a prime element in decoration, but it also plays a large part in the cheerfulness and effectiveness of diffused light, both natural and artificial; especially in systems of indirect lighting. To select colors bright enough to reflect, and soft enough not to dazzle, is one of the nice problems of planning.

¹ p. 16.

Architectural Styles

I dislike to stray upon the architect's province, but this subject affects planning so radically, that I will venture to allude to it here, not as advice to architects but as a warning to building committees. In many conditions for competitions and in many discussions among trustees where there happen to be amateurs in architecture on the board, I see directions or hear suggestions about this or that style. To formulate any specific direction to the architect on this point at the outset seems to me a fatal mistake. The style ought to develop from the needs of the particular problem in hand. Until the architect knows just what he has to construct, to prescribe any conventional style only cramps him. Neither practical libraries nor American architecture can be developed by such swaddling clothes. Select an architect who can be regarded as competent and let him choose or create a style without lay dictation, after he comprehends his whole problem. Remember, you are not burying an old style; you are in at the birth of a new one.

"The most noticeable thing about architectural styles is the spontaneity of their growth, developing from the obvious conditions of building." — *Russell Sturgis*.¹

"Having agreed on a good plan, you cannot properly say to the architect, 'We must have a classical building.' It is the most difficult of all styles; formal symmetry requiring exceptional skill in the architect." — *W. A. Otis*.²

¹ Vol. 3, col. 673.

² 8 P. L. 203.

Montgomery Schuyler writes, in his article on the "United States," for Sturgis's Dictionary of Architecture,¹ "For more than a generation, scarcely a public building was erected which was not at least supposed by its builders to be in the Grecian style. Nothing could have been practically more inconvenient than the requirement that one or more parts of a building divided into offices should be darkened by the projecting portico. In many cases this difficulty was sought to be obviated by converting the central space into a rotunda,—a wasteful arrangement." Such is an architect's comment on a feature which has been the librarian's *bête noir*.

To quote further from this interesting article:—

"The United States had thus nothing to show in current building but copies of a pure and refined architecture, implicated with dispositions entirely unsuitable to almost all practical requirements.

"Even the most thoughtful of revivalists were apt to take mediæval architecture as a more or less literal model, rather than as a starting point for modern work.

"The later graduates (of the French school) devoted themselves, not to developing an architecture out of American conditions, but to domesticating current French work."

(By the Chicago World's Fair) "classic, in one or another of its modes, was re-established as the most eligible style for public buildings. No architect would now think of submitting in competition a design for a public building, in any other style than that officially sanctioned in France.

"There is no longer any pretence of using the selected style as a basis or point of departure to be modified and developed in accordance with American needs and ways

¹ Vol. 3, col. 913.

of thinking, and with the introduction of new material and new modes of construction. . . . In civic buildings it may be said as a rule that there is no longer even an aspiration toward a national architecture."

After discussing at length modern commercial buildings, Mr. Schuyler concludes with a sentence which may well be applied to libraries: "Out of the satisfaction of commonplace and general requirements may arise the beginnings of a national architecture."

Will there ever be evolved a distinctive library architecture? I hardly think so. It will be possible to recognize a library as you can now tell a schoolhouse; but libraries if well planned will have more individualism, I think, more characteristic charm, than the generality of schoolhouses, but not a uniform architecture.

It is possible indeed that library loveliness will be developed as a recognizable type.

Amateurs Dangerous

In looking back on the experience of thirty years, I am inclined to think that most danger in library planning lies in amateur interference. Not so much in amateur librarians. When a trustee gets interested in library methods he often graduates into the profession, and becomes a leader. For instance, Justin Winsor, who began as a trustee, became a librarian, and by vigorous work did more to make his occupation a profession than any other one American. Even when the trustee stops short of this, he may sometimes worry his librarian by half-knowledge and undue interference in administration, but such a man is not apt to impede in building, for his library zeal will move him to support the practical side in any discussion.

But when a trustee (or, alas! a librarian) is an amateur architect, one of those laymen who spend an English vacation all in cathedral towns, and a French tour all in the château district, he is apt to be troublesome, and to want what he considers good style in architecture rather than good methods of administration. If he is put on the building committee, and it selects a too artistic architect, one who magnifies "Venustas" unduly at the cost of "Utilitas," the library is doomed. Its new building may be widely pictured in the magazines, but it will not be so much used by readers, or praised by librarians. Better modest ignorance, with common-sense, than too much half-knowledge and pseudo-taste in art or architecture.

Dry-rot Deadening

One of the greatest dangers in building is dry-rot — not in material or books, but human desiccation.

There is not much to fear from the architect. Unless he is too much wedded to precedents and styles, he will be progressive enough, under good advice. But a board of trustees, often composed of elderly men, may be ultra-conservative, remembering and clinging to the memory of library methods and especially old styles of library buildings, current when they were young. If they are wise enough, however, to choose a building committee of sane and open-minded men, whose recommendations, founded on expert advice, they will listen to, these votaries of tradition will not prove too obstructive.

After all, the real danger is from the local librarian who has stopped growing. Just as there are children in school who are bright scholars only up to a certain point, where they seem to stop growing, there are men and women librarians, very progressive at first, who come to an age of suspended growth, and absolutely exclude either new ideas or the comprehension of future development. They may have served so well in the past, or be so popular personally, or discharge many of their functions so well, that they are retained in their positions as librarians. They may still be useful in the every-day service of the public, but such stunted progress will utterly unfit them to act as building advisers, who require a large view of the future. If you have such a one as your local librarian, it is your first duty to get him the best expert you can find to spur him up. Unless the reactionary is also impracticable or jealous, he may work well in harness with an adviser, by giving full presentation of local needs.

C.
PERSONNEL

*In this Book
are discussed the various
phases of the personal equation which
affect the success or failure
of library planning.*

C. PERSONNEL

The Public

The root of library opinion and support is public sentiment. Indirectly, it nourishes the spirit which inspires the private donor. Directly, it supplies the impulse which founds the library; the enthusiasm which supports it liberally; the civic wisdom and pride which erect buildings; the large and democratic taste which approves adequate facilities, sound construction, quiet and appropriate beauty in building.

The aim in the United States is to make the library an essential part of education, not only in acting with the school system, but in carrying on the graduate to a larger education at home, not only literary and social, but industrial as well, so as to develop law-abiding and useful citizens. There is a further aim, akin to that of parks and playgrounds, in providing a sober recreation to rival the attractions of saloons and street corners and dance halls.

When the public can be convinced that its library works to these ends and is economically and efficiently managed, the community will support it generously. When the time comes for building, sufficient funds can generally be got without trouble. The voters will not forget Washington's injunction, "Promote, as objects of primary importance, institutions for the general diffusion of knowledge," and they will rank the library first among such institutions.

"There is probably no mode of spending public money which gives a more extraordinary and immediate return in utility and innocent enjoyment." — *Stanley Jevons*, quoted by Crunden.

In library building, realize that the public, which pays, should get every possible service in its best form, service for educated and uneducated readers; for workmen and workwomen, as well as for scholars, for the children of all, and for the teachers of the children. Especial thought should be given to those citizens who can have no large libraries of their own. Your library should be made so simple and homelike that it will invite them as a home or a club they own.

Wise Election of Trustees. The town can begin to provide for wise building by paying some attention to selecting suitable trustees. The position is an honorary one in most towns, and is usually given to clergymen, lawyers, men of literary taste, each of whom is, as it were, citizen emeritus, retired from active life, and remote from the wants of the public. The board is apt to become a cosy club, and to get into a rut. Especially is this so if it is in-breeding; allowed to select its own members, and to become a clique. If Harvard College cannot allow its overseers to serve more than two terms successively, towns should not allow any town board to become perpetual. Especially may this autocracy work harm in building. Men chosen for literary taste are not always the most practical. There ought to be on the board of trustees representatives of every section and every large element in the town. Among them there should be enough wise, level-headed men to make up a building committee, just the kind of men who would naturally be selected as building committee of a bank or church, men of judicial temperament who can weigh the argument of librarian and architect, and of

sober judgment to curb extravagance in either. It is the part of the public to elect such men, and to defer to their judgment when selected. Literary taste is not needed on building committees. The librarian ought to know how to handle books; his judgment will suffice. Artistic taste is not needed; a good architect ought to have that in his training.

Judgment. In one final point the public can help good planning; in their expression of opinion, their criticism or approbation of the building after completion.

Even the stranger who flashes through the town in his automobile can carry away into his own community an intelligent lesson. If the building has been properly planned, he should say, "That is evidently a library, a good library; just suited to this town (or institution), and evidently doing good work here."

The citizen of the town should criticize its exterior not so much for splendor as for appropriateness and good taste. Does it suggest to him, and invite him to, the study of books or the recreation of reading? Even then, better suspend judgment until he sees or hears how the new library works as a library. If he can educate himself to this degree, his lay comment will have some share in the progress of library science.

Place of the Library Among Buildings

A great deal of doubt prevails in communities as to just how much money they are justified in putting into a library building. In some towns, a disposition is shown by local economists, to give it a low relative position. They will grant liberal appropriations for a florid town hall, for a large high school, for a commodious grammar or primary school, for a handsome headquarters for the fire department, even for a granite police station, but they hesitate at a roomy building for the public library. This is a narrow way to look at it, for many more residents are served and largely served by a library of the modern active type, than by any one school or other institution. It has often been said forcibly, that the library should rank just ahead of the high school, and have a better building and better support.

Site. Though the choice of the site falls to the trustees, liberality in buying it and public spirit in offering sites at a low price, are incumbent on citizens, as well as discouragement of squabbles arising from desire to benefit real estate in different localities. A large charity should be extended to the trustees, under their perplexities, and a ready confirmation of their choice.

Ornament. There is often an opinion in the community, perhaps even among the trustees, in favor of more solid construction or more ornamental features than are necessary or appropriate in a public library building. This should be stoutly contested by the more sensible citizens, on the ground that a library is no more the object

of unnecessary expense or elaboration, than a school-house. It is a fairly well settled idea that schoolhouses should not be extravagant, on the ground both of economy and good taste. It should not be hard to persuade a community to the same conviction as to libraries. If, however, the opinion is obstinate, the suggestion might be made that a sum be appropriated sufficient to provide an ample but simple library building, and then offer a vote of an additional sum for architectural elaboration. This would bring the question squarely before the people.

The trustees ought to be left to work out their own problem first and ask for the necessary funds. If their request seems proper, and the trustees have the confidence of the public, the funds should be promptly voted. If not, a committee which has the confidence of the public can be appointed to report, but when they report the trustees should be left to plan the library. They will have to run it. If they still lack your confidence, change them at the next election.

The Donor

More striking even than the library movement itself, and than public liberality toward libraries, are the constant and generous gifts of private citizens, not only to their native towns, and as memorials to friends, but even to needy communities alien to the giver.

"The most wonderful phenomena in American social development."—*H. B. Adams.*¹

Of these donors Andrew Carnegie has been the chief and the exemplar. His generosity has been wise, helpful, discriminating. He has avoided pauperizing his beneficiaries and has stipulated that they also help themselves, sometimes in building, always in supporting. He has carefully apportioned his gifts to the size and needs of each institution or community. Most other donors have followed his example, and the library movement has been judiciously forwarded by these public-spirited friends. Of the buildings reported in the Massachusetts 1899 Report, 103 were gifts (10 old buildings, 93 new) from private donors, and 19 more part public, part private. It is not always possible to praise the libraries they have built; it is wise sometimes to ignore their motives; but the wisdom of their intentions deserves high praise and lavish gratitude. This generosity has not been confined to America. Edwards² notes that out of 180 special libraries he enumerates from all countries, 164 were gifts. Fletcher³ listed 60 such gifts in America when he wrote, without counting Carnegie. The best gifts are those which give a sum for building and another for books

¹ p. 58.

² p. 357.

³ p. 143.

and care. Thus John Jacob Astor¹ left to the Astor library, \$175,000 for a building, \$120,000 for books, and \$205,000, the interest to go to maintenance.

This tide of benefactions may last even through the generation which will follow Carnegie and his fellows, and will doubtless parallel the progress of public building for many years to come.

All donors, however, have not been as wise. Some of them have overweighted quiet communities with grotesque piles. Some of them have impoverished poor communities by expensive piles without endowment.

"There is a small library building in a Connecticut town, designed on a lavish classical scale. Its centre is formed by a large, round and empty vestibule fit rather to receive a swimming tank than a delivery desk. A beautiful dome covers this vestibule, and makes the exterior look like a mortuary chapel. Such a mistake has cost \$300,000, besides the expense of administration." — *O. Bluemner.*²

But this bizarre feature was not all the architect's fault, it was mainly the donor's. A prominent architect told me that this commission was first given to him. He studied the needs of the town, and its characteristics, and following his instructions not to spare cost, he designed as fine a library as he thought would suit and serve such a place. On taking his sketch to the donor, he was met with the contemptuous speech. "If that is the finest library you can get up, I will find an architect who can do better." And he did. "Thus," said my friend, "I learned a lesson not to cut down my fee by being too conscientious."

The worst mistake a donor can make is to give the building of the library to some protégé, or favorite architect, without engaging a library expert to advise

¹ See Edwards, p. 313.

² 3 P. L. 375.

him. There is one prominent university where all the buildings are useful and beautiful but one. This a donor gave, but got a young friend to design it in New York, without seeing the site, or consulting the professors in charge. The result is a blot and a shame.

A Library no Taj Mahal. If any millionaire sees this whose affection for a lost friend leads him to build a library as a memorial, let me earnestly beg him to make his building very modest and practical,—with a commensurate endowment, if he will. But if he wants to build a beautiful tomb, as he has a right to do, let him select some other more appropriate form. A library, of all institutions, is alive and always busy. The work it can do might be a lasting memorial to a lovely and useful character, but not if it is smothered and deadened by an architectural snuffer. I would suggest that a fine gift to a small town would be a group of buildings, say a town hall, a library and a high school, the three separate but connected by arcades, a noble but not oppressively grand and out-of-place trio; each simple and perfect for its use and place.

The library, properly criticised by Mr. Bluemner, cost \$300,000. The town in which it is situated had at the time its library was given, about 4,000 population. In looking over the list of Carnegie gifts, I note that a town of 6,000 was allotted \$15,000 as his idea of a suitable building for so small a place. Twenty libraries of this size could be built for the cost of the Connecticut misfit.

The Institution

Any library owned by an institution and not by the public, ought to have as good and as thorough advice as it can get from the wisest and most experienced librarians of similar institutions, which its own librarian or any expert will know how to elicit. It will be fortunate if it can secure as its own expert, some such librarian who has recently gone through the whole experience of building.

The officers of the institution should define beforehand, just what scope its library is to cover; just how it is to serve members, special students and visitors; how much money will be required for suitable building and thorough equipment; where enough money is to come from; what site (if site is not already chosen) is most central for probable readers and will lend itself most readily to the purposes of the association.

If its library is sufficiently large for a suite of rooms, but not large enough to demand a separate building, its trustees and architects should devote to the library, if possible, a separate floor or a separate wing or special ell, with provisions for differentiation, change, and growth, and should so locate other departments that are most closely affiliated with the library, in the closest juxtaposition.

Indeed, where the library has begun to be important, rooms need expert advice in location and details almost as much as the building. But when it has attained the dignity of separate housing, all that is said elsewhere about expert advice applies with double force to a highly specialized institution.

The Trustees

To the trustees falls full and final responsibility for all library building. They formulate the needs of the library, get the funds from the proper body, choose the site, elect the librarian, and select the architect. After hearing the librarian and architect, they decide on all its exterior and interior features. With them should really rest either praise or blame for the result. Unlike the librarian and architect, they serve without stipend. They deserve every consideration and full support.

But not every trustee is an archangel. Boards of trustees may harbor many faddists, many cranks, many busy-bodies. How to head these off from meddling with building is a problem in tact. There is often a member who "knows it all," and cannot be moved by any expert advice. He is just the man who wants to take control. He is dangerous.

"More buildings are spoiled by clients than by architects." — *E. B. Green*.¹ And this kind of trustee is the client who is most apt to spoil the library.

"The trustee will be careful not to consider himself an expert." — *Dr. Jas. H. Canfield*.² But if there is a sane majority who realize the seriousness and extent of their task, they can at least select their sanest three to serve as a building committee, delegating to them details of investigation, reserving to the full board only important points reported by the committee.

¹ 27 I. J. Conf. 204.

² 6 P. I. 602.

In small communities the trustees will probably be men of greater experience in affairs than their librarian, and better able to make investigations than he. They will also be better able to deal with the architect, and to judge the soundness of his advice. As the library is larger, large enough to have a mature and trained librarian, the board need not take an active part but may be content to serve as a court of appeal.

Experience of the past has shown that there are two prevalent dangers: *first*, the idea that the board has a primary function to make their building an ornament to the town or institution; *second*, the delusion of some member that a little dabbling in architecture or building has made him competent to advise the architect.

If a library can be made both practical and beautiful within the appropriation by expert advice, free from amateur experience, it is enough for the trustees to take pride in, that they have furnished wise guidance to such a happy result. Interference with technical details on their part is very unwise. The board should realize that they are trustees of the library, not an Art Commission, and that the special trust committed to them, the trust to which they must be true, is the use of books, not the abuse of architecture.

The Building Committee

Pick out the building committee very carefully, for fitness, not out of courtesy, or because certain members want to serve on it.

A judicial disposition, common sense, an open mind, are necessary; for they have to consult and instruct the architect and the library expert, to ratify their recommendations and decide where they differ.

The constitution of this committee is really the crux of building. On their judgment rests the event of success or failure in planning. Their chief duty is to weigh the advice of experts.

"The Building Committee usually has very vague ideas [at first] about size, location or requirements."
—*Bluemner.*¹

Once constituted, this committee should relieve the board of minutiae of planning. If they are wise, they will throw the burden of all inquiry, inspection and initial steps on librarian and architect. If these agree, the committee may take steps to verify their conclusion, but need not be themselves active. Their function is like that of a "struck jury," to report from time to time to the full board for ratification of their decisions. Perhaps their most difficult function will be to curb the architect in expense and unnecessary ornament.

They will have all they ought to try to do, in deciding various questions which will arise in planning, and in their services as umpires they can earn the thanks of their fellow-citizens.

¹3 L. P. 3.

Free Advice

If you hesitate to pay money for an expert to give special study to all your problems of planning, you can get good advice from many sources in driplets. In the first place, your librarian will naturally contribute all he knows without extra charge. In England, Duff-Brown suggests that at the outset candidates for librarianship should be asked, "Do you possess any practical knowledge of library planning?"¹ This qualification is not often considered in America; and the ordinary library education and experience do not develop it. But your librarian may happen to have served through building problems in some previous position. If such an expert has thus been fortunately secured in advance, his advice will be freely given. Even if not, any fairly good librarian ought to know where to look in books for information, and to gradually formulate his ideas, to be put into such brief and pointed queries as he is justified in propounding to other librarians.

If you have a state library commission, you are allowed to ask counsel from them. In some states the law provides that they shall give expert advice on building, when asked for it. In all states such a custom prevails. If there is no commission in your state, the commission of a neighboring state would doubtless be glad to advise.

To good librarians everywhere, even to those who have become paid experts, you can always look for such gratuitous consideration as does not make too much

¹ p. 45.

demand on their time. Their experience and judgment will be generously given free. "If there be any profession in which there is community of ideas," says Miss Plummer, "it is that of librarianship."¹ But always remember that librarians whose advice is worth asking, are very busy with the work of their own libraries.

"Information on *specific points* is freely given by librarians, but in the midst of pressing official duties it is often a severe tax on their time. It is also impossible, in the brief space of such a reply, and without learning the resources at command, to give much useful information." — *W. F. Poole*.²

Boil down your queries, into pointed questions which can be briefly answered. Draw them off in a list, with spaces for answers, which can be filled in and returned without labor of copying, and enclose a stamped return envelope. So will you not "ride a free horse to death," and will preserve your adviser fresh for further usefulness.

¹ *Hints for Small Libraries*, 4.

² *P. L. 1876*, 477.

But be Sure to Get Good Advice

Either from your own librarian or his friends, or from a library commission, get thorough advice and special study for every point in every department as you plan, and before allowing any exterior features to be settled. Do not put too heavy a burden of responsibility on the architect.

"He should not be expected to furnish the idea of the building. Its planning is a separate problem to be solved. It is the business of the owner, not of the architect, to decide this." — *Patton*.¹

"Do not rely entirely on an architect, however great his artistic and technical qualifications." — *Duff-Brown*.²

"Most of the unsuitable buildings are due to unstated problems. Too much of the lay trustee, *too much of the librarian himself sometimes*, who thought he knew, but didn't, have been the causes." — *B. R. Green*.³

Indeed, rather than trust to incompetent library advice or an inexperienced architect, I would suggest going to the Library Bureau and giving them charge of building. They would at least know where to go for competent advice, and would not charge any more profit on what they expended than experts deserve. So thinks *B. R. Green*.⁴

"Many librarians are burdened with repeated calls for information which more properly ought to be obtained from an independent expert." — *H. J. Carr*.⁵

¹14 L. J. 159.

²p 85.

³31 L. J. Conf. 53.

⁴25 L. J. 678.

⁵31 L. J. Conf. 3.

But, remember, in getting such advice from busy librarians, you are getting only their opinions, founded on experience and impressions, but not on careful and minute study of conditions involved in your problem, to which they cannot afford to give due consideration.

The fable of the lawyer is here germane, who, when reproached by a friend, "That advice you gave me was worth nothing, absolutely nothing," replied, "Well, isn't that just what you paid me for it?"

The off-hand answer of a librarian, even an expert, may or may not fit the case. He is certainly not to be blamed if it does not fit, unless he has been duly retained, and has taken time for mature study of all the facts.

The Local Librarian as Expert

"No plan should be drawn up or accepted without the skilled guidance of a thoroughly trained expert." — *Duff-Brown*.¹

Is your own librarian such an expert? It is assumed that you have one, for some sort of a librarian is a prerequisite of even a rudimentary library.

"First appoint your librarian: the rapid growth of library interests has necessitated expert service in a multitude of essential details." — *Professor Todd*.²

"Should be a scholar and a person of executive ability, versed in all departments." — *Fletcher*.³

The local librarian is undoubtedly expert in most processes of librarianship, but is he or she such an expert — not theorist, but expert — in building, that other librarians look up to him for expert advice on that subject? If not, does not your problem deserve the advice of some librarian in whom others have confidence. Do you not need the best advice you can get?

Has your librarian the natural aptitude for planning, which would have made him a good architect?

Has he the presence and force which would lend weight to his opinions against a positive architect?

"Has he a mind broad enough to argue on equal terms with an experienced architect?" — *Mauran*.⁴

¹ p. 45.

² p. 81.

³ Fletcher, *Intr.*

⁴ 26 L. J. Conf. 45.

Should you consider him "a capable man of business," as Mr. Hallam suggested thirty-two years ago?

Is he too young to teach, or too old to learn?

"A very good librarian may yet have no great fitness for the task of planning a building." — *Miss West (now Mrs. Elmendorff)*.¹

And a junior librarian need not feel hurt if he is not trusted as an expert. As the best English authority² says: "Do not expect too much from a low-priced librarian." To this I should add, "Do not expect too much of any librarian, even a leader in the profession, and do not expect omniscience of leaders."

And it is, of course, superfluous advice not to take your local librarian at his own valuation. He is most likely to assume the function of an expert in building when he is least fitted. The really experienced librarian is apt to be modest and to ask assistance, in the belief that "two heads are better than one." It will not be difficult, through a little quiet inquiry, to find where you can get the best advice, at home or elsewhere.

¹ 19 L. J. Conf. 96.

² 19 L. J. Conf. 96.

The Library Adviser

"No library board should attempt building without taking counsel of someone who has made the subject a special study, and has had experience in library management." — *Poole*.¹

If you want to get a really good library, which can be worked easily, economically and effectively for years to come, and if you are not quite satisfied to leave the entire responsibility to the librarian you happen to have, or the architect you happen to get, there is a chance for you to employ, for a far less sum than a competition would cost, such a library expert as will be able to give you aid just where and when everyone may need it most; an adviser who can limit expense of construction, augment capacity, provide for the best and cheapest service, explain your needs to the architect, avoid friction, and bring to the best issue the countless puzzling queries which will arise after the plans are settled, the contracts let, and you plunge into the pitfalls of building and furnishing. Contract with this adviser for the whole problem, from start to finish, — you will want him to appeal to, up to the very end, and it is poor economy to try to scrimp on trifles.

"Committees who work without a trained adviser are certain to spend many times more . . . in futile and expensive experiments. . . . No plan should be drawn up or accepted without the skilled guidance of a thoroughly trained librarian." — *Duff-Brown*.²

¹ P. L. 1876, 484.

² pp. 45, 85.

"In this era of the establishment of so many new libraries, and the gift of so many hundreds of buildings, there is decided need for the effective service of a consulting librarian. Many serious mistakes are made, especially in building, for want of a competent professional adviser. — *H. J. Carr.*¹

As two or more counsel are often called in to the trial of a case at law, the importance of library planning demands strong reinforcements for the local librarian. An architect, usually a mature man of affairs, experienced not only in building, but also with men, should be met with equally experienced library advice, lest the library side be overborne. Experience will respect experience, but hesitate to yield to half-knowledge.

It will be possible to get such aid in any part of the country. I should say that there are at least fifty able librarians in the United States who have had such experience in building as would qualify them as experts. Their names could be learned from any library commission, or from any good librarian. "Authoritative recognition of experience and learning stamps a man as trustworthy." — (*Libr. Asso. Record.*) Few, perhaps, have worked through all the problems of a very large library. Many have built libraries or branches in the other grades. In the branches, large librarians have faced the requirements of small libraries and would be competent advisers for any grade. The experts in any particular class (except public libraries) are fewer, but could be easily found. With demand, experts will multiply. No new library need lack a suitable adviser, if the local librarian will ask for one, and trustees can see their way to employ him.

As to the fee, the need is so new, that no professional scale has been prescribed. But for service from start to finish, as I have recommended, one per cent on the total

¹31 L. J. Conf. 3.

cost would not seem too large for the time demanded, the services rendered, and the ends gained.

(To compare library advisers' fees with architects: The American Institute of Architects have set as a minimum fee, six per cent on the total cost of the building. For preliminary studies alone, one fifth of this fee is to be charged. This would be over one per cent. The library adviser has very little to do with structural planning or construction. His work corresponds fairly well with "preparing preliminary plans," so that one per cent would seem to be a fair fee to offer. If he is competent he can save ten times this by pointing out better methods and practical economies.)

It will be always an open question whether the expert, when chosen, can spare and be granted time from his duties in his own library. His board, however, would usually feel moved by courtesy to grant such time as he needed, beyond his free evenings and holidays.

Briefer consultations would merit special fees, to be agreed upon. In view of the expert character of the service they should be as liberal as can be afforded.

Selecting an Architect

In some states or cities, laws or public conditions may compel competition, and even where there is no such necessity, solicitation, especially from relatives and friends, makes a direct choice embarrassing. But trustees who have the courage, as they have the clear right, to make a choice, will certainly save money, gain time, be sure of a good working library and of an appropriate and pleasing exterior, and stand a better chance of pleasing everyone, by letting librarian, architect and building committee get to work at the plans as soon as the site has been chosen.

So when you have got a good librarian as a champion, the next step is to get an architect. You need one—

- To advise on site;
- To help plan the interior;
- To consider material and construction;
- To design the exterior;
- To draw working plans;
- To invite bids;
- To prepare and let the contract;
- To superintend construction.

For this you must have on such an important and technical building as a library, thorough professional education, experience in designing and building, knowledge of men; and of course, intelligence, tact, tractability, ingenuity, sagacity, and honesty.

Consider all these qualities in your choice. If your library is beyond the small stage, and especially if you have secured an expert library adviser, you do not so

much need an architect who has built libraries. You do not need him for library advice as much as for the duties scheduled above. He needs advice about the special requirements of this problem. Possibly previous ill-advised experience might leave him stubborn in bad ways.

"If it be practicable to engage an architect at the outset, it is the better course," and remember, "The most competent architect is not likely to seek employment most aggressively." — *Bernard R. Green.*¹

"It is best to select the architect before the site is selected. His advice will be useful. Commissions or librarians who have built can suggest one." — *Miss Marvin.*²

But the most important question in regard to an architect is, does he belong to the school which exaggerates *Venustas* in all building, or the better school which accepts *Utilitas* as the key to library problems?

I heard President Faunce of Brown at a building committee meeting ask of the architect whom they were "sizing up," this question: "Do you believe in planning the exterior or the interior first?" The answer came, prompt and decided, "I want the interior fully planned first; in no other way can I evolve appropriate architecture." A year later, at another meeting, President Faunce asked the architect, "How are you satisfied with your library, now that you see it built?" "Very well," was the answer. "I ought to be, because I have never had a problem so thoroughly presented."

A similar question ought to be asked every architect before finally engaging him. If he wants to plan the exterior first, he belongs to the class of architects who ought to plan tombs, not libraries. Reject him, however famous or influential or persistent he or his friends may be.

¹ 25 L. J. 682.

² p. 8.

Base of choice. It is wise, in the first place, to disregard pressure. The best architects will rarely try to use it, or allow it to be used for them. A dignified letter, with reference to work they have done, will be all they would allow. Distrust activity in application.

"Announcement brings letters of solicitation from architects or their friends, and all sorts of intrigues. In private work, it is usual to appoint the architect outright."¹

If you have a satisfactory expert as a librarian or adviser, any architect who has done good work will do, even if he has had no direct experience with libraries.

"The number of libraries an architect has built makes little difference." — *Marvin*.²

Prominence, though, is not necessary. A good authority already quoted, says: "The best of architects, standing at the head of their profession, have failed in practical library designing, some of them to a ridiculous degree."³ We all could point out such men.

Get an energetic, young architect for a small library; the large firm must turn over details to a subordinate.

"A local architect, if competent, may be better than one at a distance." — *Bostwick*.⁴

If you think it best to try to save on a library adviser and yet do not fully trust the experience or the persuasiveness of your own librarian, it will probably be best, especially in small buildings, to find an architect who has already built satisfactory libraries, and who ought to know at least how to avoid bad blunders. But here again do not take his unsupported testimony to his experience. Make private and careful inquiry of the librarians he has worked with, and those librarians who have had to operate his buildings.

¹ 29 L. J. 413.

² p. 8.

³ 31 L. J. Conf. 53.

⁴ p. 273.

"Look around, inquire about different men; make inquiries from those who have worked with each. Select him before he has been allowed to make a single stroke of the pen on the plans. You will work with him much better from the beginning." — *W. A. Otis.*¹

Choose the man, with a good reputation on his own profession, who has shown willingness, reasonableness and ingenuity in getting all requirements satisfactorily packed inside a dignified exterior.

"Take a man willing to listen to the librarian's point of view." — *W. R. Eastman.*

It is not impossible to do this.

The American Institute of Architects, in their Circular of Advice, says that "the profession calls for men of the highest integrity, business capacity and artistic ability. Motives, conduct and ability must command respect and confidence." This is the type of man who will represent architecture in your contest. See that the library champion is in the same class.

¹ 8 P. L. 205.

A Word to the Architect

Here seems to be a good place to slip in an aside to any architect who chances on this book.

You will see that the keynote of the volume is belief that the library is more akin to a workshop than to Grant's Tomb; perhaps akin to a literary workshop, like a school, would be a more correct definition, and you know how your profession grapples the schoolhouse problem. I have seen many new schoolhouses through the country, and have noticed how many of them are simple but effectively beautiful. All librarians believe that a perfect library inside, can be made charming outside, through taste such as has been shown in these schoolhouses. They ask architects to accept their workshop theory rather than a monumental conception.

The building committee are your real clients, not the librarian. To their decision you must bow, even if you have to assume blame for a poor inside. But if they give you a free hand and a library adviser, defer to him. If he is not up to his job, if he is callow or antiquated or faddy, be patient with him. With the tact your profession knows how to exercise, interpret what advice he tries to give, supplement his failings with your own study of the subject, and plan the best library possible under these circumstances. So shall you win a crown of glory among librarians.

But if they give you a mature and wise adviser, welcome him as a friend and lend ear to his experienced advice. You will become a better architect in one branch of your profession, he will broaden much in his, and together you will advance both library science and architecture.

If you are altruistic, there can be no better opportunity to serve the public than by curbing your artistic ambition and devoting all your training and ability to making this building a better library than has yet been devised.

If you thus plan truly from inside outward, I will predict that you will satisfy the public and yourself far more than if you had thrust an unwilling library into an inadequate shell, or had prostituted your genius by forcing a false type of architecture on your helpless clients.

As you must have gathered from glancing through this book, I am a firm believer in the practical genius and taste of the best American architects. I believe that they can create consummate beauty out of the most unpromising conditions, and I hope you will thus grapple library problems.

Which Should Prevail?

The Building Committee chooses site, appoints adviser, selects architect, defines scope of the library, is final arbiter of everything, with appeal to the full board. Every point which remains in dispute after conference among all the advisers, should be formulated in definite questions, with clear reasons *pro* and *con*, and submitted to the committee. Except in a very small library, where one of the trustees is virtual director in default of a skilled librarian, the building committee can serve best by keeping their minds free for such decision, if called for, on such presentation. The advocates, if unanimous, should receive unanimous approval; if divided, the committee must decide on the weight of the arguments presented.

The local librarian will have to run the library after it is built, and if he has sufficient sense and experience to know what he wants, he ought to have his choice in any possible alternatives.

The library adviser, as he has the wider range of experience, should carry great weight with the local librarian, the architect, and the committee. He can often point out more than one satisfactory way to reach a desired end. When he and the librarian agree after discussion, as they generally will, the architect should have very strong convictions before opposing them.

The architect, on points of construction, is supreme. Neither librarian or adviser will want to oppose him here, although both may be able to advise. When the plan is fixed, they must confide to him its clothing in architectural form, and its execution. During planning it is wise to consult him at every step. for his training, his experience, his genius, will improve on many ideas, and will show ways of overcoming many obstacles. Before he gets through, indeed, he will get to be very much interested, and become something of an expert himself in library science.

But the architect and librarian should not disagree. When a point of difference arises, as it may, talk it over amicably, patiently, thoroughly. The aim of all should be, to build a good working library. When all the reasons are presented (here is where the librarian or library adviser should be a clear and persuasive advocate), the architect may come to see the matter in the same light. If not, he has got to present more powerful arguments. Perhaps he can show the librarian how he can gain his end in a more correct architectural way. If they still disagree, each side will be ready to present its reasons to the building committee, with odds in favor of the librarian. Champneys (an architect)¹ acknowledges that "architects should not be considered competent arbiters on questions of library administration." But, if it is a structural question, or a question of taste, the architect's advice ought to be preferred.

¹ p. 2.

Architectural Competitions

As to libraries, the American authorities seem unanimously opposed to competitions.

The American Institute of Architects at their 1911 convention, said: "The Institute is of the opinion that competitions are in the main of no advantage to the owner. It therefore recommends, except in cases in which competition is unavoidable, an architect be employed upon the sole basis of his fitness for the work."¹

"Sketches give no evidence that their author has the matured artistic ability to fulfill their promise, or that he has the technical knowledge necessary to control the design of the highly complex structure and equipment of a modern building, or that he has executive ability for large affairs or the force to compel the proper execution of contracts.

"I will add, that an architect's established reputation and the excellence of what he has already built, are far better proofs of his ability to undertake a library, than any guess he can make in a competition. Competition descends into a guessing match as to what will please the committee."²

"The whole matter of employing professional men in this way is absurd. The architect should be called in at the very commencement of the work. His opinion is as much needed in the choice of a site, and the first formation of the owner's ideas, as in the preparation of working drawings." — *Sturgis*.³

The practically unanimous opinions of architects and librarians who have written or spoken on building, are strongly against competition. In an excellent paper

¹ Architectural Competitions: a circular of advice, 1911, pp. 4, 5.

² 26 L. J. 865. ³ Art Competition, Vol. 1, col. 657.

read at the Waukesha Conference by an architect, Mauran,¹ he said: "Appoint your architect. It is a popular notion among laymen that a competition will bring out ideas, but I know of only one building erected from competitive plans, without modification. Aside from the *needless expense and loss of time* entailed, a greater evil lies in the well-proven fact that most architects endeavor to find the board's predilections." (Instead of trying to work out a perfect plan.)

"Avoid the competitive method." — *E. N. Lamm.*²

"A plan that has nothing in its favor, and everything against it."³

"Of three methods, open competition, limited competition, and direct choice by the board, the last is far the simplest, and much less expensive." — *Mrs. Elmen-dorf.*⁴

"Trustees are not likely to get what they want by competition." — *W. R. Eastman.*⁵

"After the requirements have been sent out to competitors, there can be no more consultations between them and the librarian until the award is made."⁶ (This cuts out the librarian just at the critical part of planning.)

"It is not usual or advisable for buildings costing less than \$75,000." — *Marvin.*⁷

Out of twenty-two libraries included by Miss Marvin only two had competitions. One library⁸ reports: "It was the intention of the board to choose by competition, but none of many plans submitted was satisfactory. Committee finally decided on architect and worked with him."

"What little good there is in competitions is not to the advantage of the client, but rather to the advantage of the architect. The young men have a better chance

¹ p. 26 L. J. Conf. 91.

⁴ 19 L. J. Conf. 96.

⁷ p. 7.

² 6 P. L. 610.

⁵ 26 L. J. Conf. 39.

⁸ p. 59.

³ 7 P. L. 113.

⁶ Boat. 273.

to win, before their time. An architect directly selected grows up with the committee, educates them, and learns from them." — *Edward B. Green.*¹

"The committee had thought of having an architectural competition, but in deference to the advice of the librarian and his adviser, they selected an architect without competition, so that every step in planning, from the outset, could be discussed from the standard of the architect, as well as from that of the librarian. To this is to be attributed the success of the building." — *John Hay Library Report.*²

If any doubt remains, after reading these quotations, I will add that all my study and experience for over thirty years, in many hundred concrete cases, have led me to the profound conviction that the surest way to spoil and stifle a library is to invite an architectural competition. I have so great confidence in the talent and genius of American architects, that I believe any one of them, true to the traditions of his profession, would take the conditions presented by librarians, and out of them, work up a library much more practical and far more beautiful than could be ensured by any method of competition.

If law, or public demand, or fear of assuming responsibility, prevent a board of trustees from choosing an architect at the outset, they should first choose an architectural adviser (see next chapter), whom they will have to pay handsomely, as well as to pay premiums and prizes for the competition (I see that the University of California laid aside \$50,000 for this purpose); and have him formulate the requirements, superintend the competition, and assist in judging ("assessing" it is called in England) the results.

But I wish that he might be able to shut out from any award those competitors whose plans would exceed the

¹ 6 P. L. 601. ² 34 L. J. 205.

prescribed cost. I remember in my callow days having gone to a friend who was a prominent architect, and proposing to prepare joint plans in a great library competition then impending. He laughed and said, "Yes, I would like to do it as a matter of study, but we will not win a prize. Ours will doubtless be a fine library inside, but there will be no librarian among the judges of award. We will have a fine exterior, but we shall try to keep within the desired cost. Some other architect will plan a larger and more florid and more expensive building, which will fascinate the public eye so much it will win the prize, and the donor will be asked for more money, which he will meekly contribute." My friend was right. Just this result followed.

In the recent Springfield (Mass.) competition, each architect was required to submit with his plans an estimate of their cubic contents, as a basis for calculating how much they would cost. This was an excellent precaution against just this danger.

In England a competition is apparently accepted as a necessary evil.¹ I cannot find anything on the subject in Burgoyne, but the architect Champneys² says that the architect is in most cases selected by open competition. He adds that this "gives openings to those whose abilities would otherwise escape recognition," and rather faintly concedes some advantage in selection.

"It is almost impossible to make instructions (in a competition) so comprehensive that an architect can be taught this very special branch of his art."—*Champneys*.³

It should be also recognized that competitions are very costly and delay work on a library several months. What is saved by not having a competition would pay ten times the expense of getting the very best library expert.

¹ See Duff-Brown, p 85.

² p. 120.

³ p. 120.

Judges of Competition

The advising architect, necessary in case of a competition, and often called in when another architect has been selected for a very large problem, is generally taken from among the heads of architectural departments of universities or technical schools, though one authority suggests that sometimes a prominent architect in actual practice might be a more up-to-date judge. As has been already said, he formulates and guides the competition and acts as chairman of the jury to award prizes. Sometimes more than one architect is asked to serve on this jury, with unprofessional citizens of artistic taste.

But very rarely is any prominent librarian, almost never a considerable number of expert librarians, named for the jury. Here, however, they ought to have especial influence. They can at least prevent bad blunders. As a librarian who had recently served on such a jury confided to me, "All we could do, of course, was to pick out the plans which had the fewest faults from the library point of view." The least a board of trustees could do, it would seem, after handicapping their library by a competition, would be to let expert librarians have a large share in picking out the plan. But perhaps they would want utility too much, and the real object of a competition is only outside show, of which the librarian is not a better judge than the average man.

If the trustees wish above all to have a good working library, they ought to ask to serve on the competition jury, one prominent librarian who has built, and one prominent librarian of some library of the grade and class which is to be built, and give especial weight to their opinions.

Order of Work

The building committee having been chosen, the librarian being in charge, the adviser selected, the architect appointed, the cost provided for, and the site chosen, it is time for planning to begin.

The first step should be to inspect the site together, and let the architect (without letting his mind anticipate details) say what form of building would best suit site and neighborhood,— tall or low, broad or narrow, four equal-sided, or front and rear, occupying whole lot, or leaving skirts for air, light, and quiet.

If the committee should approve his first impressions, the next thing to do is for librarians to find the cubic contents that funds will allow (see chapter on Cost¹), get from the architect his idea of how many stories there would better be, with the height of each (including basement), and possible pitch of roof. Then, getting tentatively the height of the building, divide the cube by the height, to approximate the floor area.

The next important question is, which shall be the main floor? The second floor is sometimes considered; if the ground falls off rapidly, what is basement on one front, and ground floor on the other, may be eligible. (In comparing English with American plans and descriptions, remember that their first floor is our second.) Almost invariably, the first or ground floor will assert itself as the main floor, into which, in all buildings but the largest, it will be desirable to dovetail as many departments of active service as possible.

¹ p. 103.

Having already calculated the available area of the floor, you are prepared to make a list of the rooms you want to get on it, and to define the size of each. You will already have arrived at some prepossessions about this, but before you finish planning you will probably have to modify them considerably. To be thorough, it will be wise to make your own list of the rooms needed for the kind and extent of work you want to do, then look over a lot of plans, and perhaps read the printed architectural requirements issued for libraries of your grade and class, in order to be sure you have not overlooked any of your own needs.

As you get to know the size of your delivery-room and main reading-rooms, it is time to confer again with the architect about his general ideas as to suitable proportions for building, whether it will have a distinct front and rear or will require outside effect all around; and as an element in that case, where you shall put the stack, if you have got to have one.

Then comes the most interesting part of planning, the putting together of your picture puzzle. Mr. Foster of Providence actually cut out of paper and grouped together his proposed rooms. I have found it better to get the architect, with paper, pencil and foot-rule, and draw to scale many successive sketches of each floor, assembling and transferring rooms, working out the passages, and calculating stairs. As you proceed, the architect will be evolving his exterior, and now, before he gets his mind fixed, is the time for mutual concessions.

When the rooms are fairly co-ordinated, their required furnishing has to be plotted in, especially the shelving. How many books and readers, how related, do you want in each room? Are wall-shelves better, or full floor cases, shallow or deep alcoves, low floor cases, partitions, railings, what not? Have you provided for full supervision and quick service everywhere?

The stack requires separate study. Is it necessary to have one? Where shall it best be put,—along one side? at the top? at the bottom? or as a projection from the building? As to details, see chapter on Stack.

When the rooms have been settled and their requirements defined, the architect's special duties begin. He has to settle the necessary height of rooms, the provision of sufficient light for each by day and by night, the arranging provisions for heat and ventilation, not to interfere with books or shelving, or tables or desks. All this before the exterior is considered,—all spent in planning that interior which the exterior must conform to.

"Work on your plan, finish your plan. When that is perfect, the rest will come." — *Mauran*.¹

Then you may take a month or two for the preliminary conferences between the librarian and his adviser; a month or two for conferences between them and the architect; a month or less for inspection of other libraries. At some time during this process two trips may be taken to other libraries, the first rather early, as soon as your ideas have taken form enough for you to know what you want to look at; the other toward the end, when your need of further information is fully defined. Where to go, whom to take on your tour of inspection, will depend on what funds you can spare. Details of furniture, location of lights, and so on, may be deferred, to be taken up during building. A month or less is needed to submit results to the committee. After their approval has been obtained, the architect must prepare working drawings and specifications, invite bids for work, wait two or three weeks for them, and even then you are ready to break ground on your building in half the time and with half the expense, for fees, traveling, and all, that a competition would have required.

¹ 26 L. J. Conf. 45.

Extras. One good result of this thorough study of every detail in advance should be, that no new wants or serious omissions occur to you when you come to build.

But if you do not plan so thoroughly as to cover all contingencies, expect to find something to be changed or added as you go on, confronting you with those "extra charges" which often appall builders of dwelling houses. Still if your oversights follow to plague you, your architect can here help you with the contractor, and can generally find savings enough in "perfectly good" alternatives in labor or material to balance the cost of the extras. If they finally get ahead of you, and materially increase the cost, either architect or librarian is at fault—someone did not plan well ahead.

Model. The last step of planning may well be the preparation by the architect of a sketch-model in clay for the building committee. This shows the proportions and visualizes all features far more clearly than floor plans, elevations and sections on paper can do. If the sketch-model can show both elevation and sections, it will bring to the librarian his allocation of rooms in final review, and bring out to all concerned, librarian, architect, committee and public, just how the building will "work" and how it will look.

D. FEATURES

*This Book contains
considerations which affect
the whole building.
Note especially
Light, Heat, Ventilation.*

D. FEATURES

Site

If the site is given by a donor, or chosen by some other authority, and has been accepted by the board, the only thing to do is to make the best of it. Adapt your plan to it, improve whatever opportunities it may offer, and overcome its defects as best you can.

If it is open to choice, there are often embarrassing conditions. Owners of lots more or less eligible (usually less) are anxious to unload at good prices, and besiege the board with importunities; or owners of real estate not immediately eligible, exert all their direct and indirect influence to get the library building in their district or on their "side." Even after the choice has been narrowed down to two or three acceptable lots, and has been freed from "pull," selection is difficult because of different *pros* and *cons*.

The main consideration for central library or branch is accessibility for the largest number of users. Retail centers, not so much geographical as practical, well served by car lines, point out the proper neighborhood, but main streets are often too noisy, and good lots on them are too expensive and not easy to get. If there is a quiet street next back of, or close to a main street, especially with an adjoining public square or small park, it will furnish an ideal spot for a library. Good vistas of approach afford opportunities for effect, and bring the library into view and notice.

Space all around the building, and adjoining streets on as many sides as possible, give light, isolation from dangers of fire, more quiet, less dust, than positions directly on a main street.

A wholesale business section, whose occupants only come during business hours of the day, is not a good location. Edges of vast open spaces are not so good as actual centres of residence or of small retail trade to which residents are attracted.

If a site among high buildings must be chosen it would seem wise to build the library high, with reading rooms up toward air and light.

By all means try to foresee and provide for future developments as they may affect immediate surroundings and future accessibility. The neighborhood of schools is always good. Bear in mind that certain noisy or smoky occupations are bad neighbors, and slums only suitable for charitable work.

A lot too high above the street grade may offer architectural advantages, but is bad for public library purposes. Popular departments ought to be directly at street grade, and the necessity of climbing steps hinders rather than attracts readers. A lot sloping upward requires objectionable and expensive approaches, one sloping sideways is unbalanced, but one sloping backwards is often good, for it allows a light basement at the rear, or a stack above and below the main floor at street grade.

It goes without saying that a wet soil is to be avoided where books are to be stored.

In a large city a favorite site for the central library is on some municipal square, near other public buildings. But in such a prominent place, especial care is necessary to escape a heavy architectural style which would darken the building, and divert cost from library facilities to expensive material.

In smaller cities and towns, better sites in proportion may be obtained. Here, where land is cheap enough to allow more space, always provide for growth and future extensions of the building. It has been advised to get enough land for future development, even at expense of the first building.

"The worst site is a deep one, of irregular shape, with only one frontage. If offered, don't buy, or even accept it as a gift." — *Burgoynes*.¹

But a deep and irregular lot, with a possibility of light on all sides, may not be unfavorable for a building with a stack at the rear. Narrowness in a stack, if somewhat unfavorable to short lines of communication with the desk, give possibilities of excellent daylight everywhere.

¹ 6 Libr. Asso. Record.

Provisions for Growth and Change

It cannot be too strongly urged that a chief caution in planning should be to anticipate and provide for that rapid growth which may strike any American community, large or small, urban or rural; and that development or change of methods which will come even if there is no growth of population. When or how or just where it will come, it is always difficult to foresee. The tide, indeed, seems world-wide. Champneys warns, "Forecast, if possible, and plan in advance. If not, it will be hard to preserve in future a workable home."¹ Van Name said at St. Louis in 1889, "The present rate of library growth requires far larger provision for the future, in space and in economizing space."

"Every library in America *must* continue to grow." — *Eastman*.

"One cannot observe the rapid growth of libraries during the last half century without being led to ask in wonder what is to be the result in the future. There is a law affecting the growth of libraries not unlike that of geometric progression. By the principle of *noblesse oblige*, a library which has attained a certain size is called upon to grow much faster than when it was small. It is difficult to foretell. For years to come libraries will grow rapidly. Ingenuity will bring into use new methods and new apparatus." — *Fletcher*.²

"Libraries designed to serve the needs of decades to come prove too small before they are fairly occupied." — *Dana*.³

¹p. 135.

²pp. 115 and 120.

³Lib. Prob. 4.

"The model building of today will be quite out of date tomorrow." — *Marvin*.¹

Perhaps rate of growth cannot be calculated, but it can be shrewdly guessed. It is hard to be too sanguine. Growth in American libraries has oftener been under-estimated than the reverse. In an established library you can multiply recent annual growth by twenty-five, for the probable life of the building, and subtract possible withdrawals. But moving into a new building, and growth of the population served, will tend to make needs for space increase in geometrical ratio rather than merely arithmetical, and there are always gifts to be anticipated. So let the sanguine members of your board reckon growth.

Exterior. Provision can be made by buying a lot larger than you will need at first. A plan can be drawn with future wings suggested, or more stories, or an ell. This will require stronger walls, and study of features which could be matched in making changes.

In large libraries, use of sub-cellars, especially for stacks, can be looked to, and sunken stacks, or at least subterranean caves for fuel, can be arranged under that part of the lot outside the building, or even in some cases under the street or an adjoining park. If the experiments now making in various places are successful, this growth downward may be almost as available as growth upward. But see "Stacks Underground," and "Stack Towers," in later chapters.

Interior. There are several ways for providing for changes inside. If you have enough money, build largely, and space out. Provide more space for books and readers than you can use at once. Make your floor-cases movable, and set them wide apart, to be closed up later as required. Set tables and chairs

¹p. 5.

generously apart, and crowd them together when otherwise you would have to turn away readers. Provide attic and cellar so built and prepared for subsequent finish that they can be used to some purpose when more rooms are wanted.

That reminds me to say that a wise provision is to have as few rigid partitions anywhere, as possible. If you must have any, make them so light, even if sound-proof, that they can all be swept away when it becomes desirable to change.

"Plan a library so that it may be susceptible of inner development," says Dr. Garnett.¹

It is always well to plan your shelving so generously as to leave room everywhere for many years' growth, and so avoid necessity for early rearrangement.

In small libraries, if the book-rooms are built high enough, provision can be made for a second tier of wooden or metal shelves above that first installed. Better always leave them thus high in the projection, side, or corner devoted to floor bookcases.

With very large libraries interior provisions, except in leaving floors or rooms unoccupied at first, and avoiding rigid partitions, will be difficult.

Limitations. In some libraries it is possible to set a limit for desirable growth. For instance, the faculty of the Episcopal Theological School in Cambridge, Mass., could say that they never should want more than seventy-five scholars or 50,000 volumes.² In branch libraries it is usual to decide in advance how many books are needed, and to keep this number the same, by withdrawing as many volumes as are added from time to time. Suburban libraries can reduce the normal limit of growth by arranging with their neigh-

¹ p. 279.

² 37 L. J. 135.

boring urban libraries for a co-operative and interloan system, or may unite with them in some such system of segregating useless books in a common catacomb as has been suggested by President Eliot. (See *Fletcher*.¹)

File Your Plans. Too often, plans for growth carefully made in planning, have not been preserved. When need comes for them, perhaps often when librarian and trustees have been changed, these provisions are not remembered, or if faintly remembered have been laid away where they cannot be found. The wise way is to file your plans away in the library after using them, and include in the portfolio your provisions for change, both card catalogued so fully that they cannot be missed. Even if conditions have changed before alterations are demanded, the original forecast will be found suggestive in making new plans.

¹116 *et seq.*

Approaches: Entrances

Where the lot is large enough, there will be room for simple landscape gardening which can add greatly to the attractions and architectural effect of the building, without adding largely to the cost. This is, however, in the architect's province. As is elsewhere suggested, the park board or institution may assume or share the cost of such embellishment.

Outside Steps. In small buildings, the nearer the main floor gets to the street level the better. If the site is so high that there must be more steps to surmount the basement, a few of these set inside the portico or vestibule will prevent the building from being all stairs in front. In larger buildings, flights of steps, however slight they are, are a hindrance to entrance or exit, just so many steps to be surmounted in every visit to the library; as bad as an unnecessarily large vestibule, or long corridor—effort and cost wasted. From a library point of view they are all wrong.

Porticoes. These are unnecessary for library use, and where economy is an object, are objectionable. They spoil front light in the centre of the building, where it is most needed. They give a heavy tone to the library, and a suggestion of outgrown methods. If they must be, *utilitas* requires that some use should be found for them, and for the kind of vestibule they require. In very large buildings, where architectural effect is wanted, they offer an opportunity to concentrate it there, and leave the rest of the outside walls to be treated for inside light and convenience. Behind the columns, unheeding their shadow, are places for a vestibule and rooms above which do not require much daylight.

Vestibule. In libraries of average size only a small vestibule is needed, and a lofty vestibule is a waste of overhead space. All that it is needed for is to check drafts and exclude dust, and to give chance for the stir of removing wraps. A vestibule is often the best place for stairs up or down. It should be under supervision from the desk, through glass. In a large library, behind a portico, it can be used as a reception, exhibition, conversation, and waiting-room, being in a position which need not separate departments, or usurp space more needed for other rooms.

"Compact central vestibules, from which all departments open in plain sight from the entrance, are better than long corridors." — *Champneys*.¹

Front Door. This is generally the main, often the only public entrance and exit, and should be always under supervision; in small libraries, from the desk; in large libraries, from special attendants, who may also serve as information clerks, umbrella checkers, and special policemen.

A Revolving Door, though expensive, serves some of the purposes of a vestibule, or a storm door.

Other Outside Doors. A separate staff entrance is often advisable, a janitor's door (usually to the basement is necessary; separate doors for the newspaper room, the children's room, and some groups of allied departments are needed in large libraries. In libraries of moderate size, where there are no such doors, the municipal fire regulations may require special emergency exits.

Swing all Doors Well and Wide. Outside doors, and doors from rooms for many occupants, should naturally swing out, for escape in case of fire or panic. The swinging of every door is a matter for special study,

for not only passage, but wall space and convenience depend on it. And have every door wide enough for the maximum audience to come and go through. As I was shot into a crowded room in the New York Public Library recently by pressure from a throng so insistent that it checked those who wanted to get out, a librarian whispered in my ear, "Every doorway should be wide enough to avoid such a mob as this."

No Doors Between Rooms. In fact, next to having a floor without partitions, it is sometimes well to have only wide openings through partitions, without doors. Doors are only necessary when drafts are to be checked, noise is to be excluded, or passage to be discouraged.

Height of Doors. Unnecessarily high doors are a waste; doors low enough to make a tall man dodge are a nuisance; 6 feet 6 inches is about right.

Storm Doors. The librarian of a very large library reminds me of the necessity of storm doors for winter in our climate, and says that architects seem unwilling to plan them. Certainly every architect of every library, large or small, should include such a structure in his plans, to harmonize in shape and color with the effect of the building. In small libraries, it will be the only portico, or vestibule. In large buildings, under a portico, it bars snow and weather and tempests from direct invasion of the vestibule. Good taste can make such an inexpensive structure slightly, but unless the architect foresees the need and supplies the taste, some carpenter hastily summoned when the need arrives, may spoil a fine entrance with an ugly excrescence.

Halls and Passages

Too much space wasted in these and in entrances, is a bad fault frequently found in libraries, but easily avoided in making plans.

"Should be sufficient, but not wasteful. Redundant corridors show bad planning." —*Champneys*.¹

The English Building Act prescribes a width of 3 feet 6 inches to 4 feet 6 inches, for from 200 to 400 persons likely to pass. Duff-Brown² thinks they should not be less than four feet wide for "public traffic." And Champneys doubts they need exceed nine feet in width.

Are these passages absolutely necessary for library purposes, in length, width, and height, is the test to put. Can they not be omitted entirely?

In small libraries, it is a merit to have all rooms open out of the noisy space which must be left in front of the delivery desk. In larger libraries, passage through reading-rooms is never allowable, and separate entries are necessary. In very large libraries such passages can hardly be avoided. In wings or ells, to utilize light for rooms on both sides it may be necessary to have long corridors lighted on top floors above, on other floors from transoms.

The height of passages needs to be watched as keenly as their other dimensions, for more than 6 feet 6 inches or 7 feet is a waste of space which might in some way be utilized in rooms or on other floors. Nine or ten feet, however, may be required for light, ventilation, or height of stories.

¹ p. 104.

² p. 87.

Stairs

Ornamental flights of stairs are usually wasteful and disjunctive, especially in the centre of the building. "They are never used by anyone; all go up in elevators." — *Dewey.*¹

See an excellent article by W. K. Stetson² criticising the Newark Public Library.

A good rule is to have just so many flights of stairs as may be required by the probable use of rooms on each story, and to have them no wider or more massive than passage demands. Stack stairways may be only two feet wide; other service stairways not over three feet, which allows passing of single users. Indeed, flights six feet or wider should have a central rail, to keep climbers apart from descendents. When floors are much used, two separate narrower flights, for which room can generally be found symmetrically, will be better than one broader flight.

No stairs should be slippery or have projecting obstacles to trip climbers, or be too steep or high-set for old persons.

Treads. Easy treads are essential to serve all comers well. $5\frac{1}{2}$ -inch rise and 13-inch tread, will be generous; $6\frac{1}{2} \times 11$, tolerable. Brooklyn directions specified 4-inch risers.

If any material is used which is, or will wear, slippery, be sure to have some rubber or other stair-pad, well secured, so that even the most unsteady climber cannot trip or slip.

¹30 L. J. Conf. 240.

²36 L. J. 487.

Material. Stone wears down unevenly, and all kinds of stone split and fall in case of fire. Marble is slippery. Iron wears slippery. Wood splinters. Concrete or stone, the treads covered with hardwood or rubber, is probably best, all things considered. But in small libraries, hardwood serves.

Handrails. Dr. Billings sends warning that large, ornamental stairs, outside or inside, should have some form of practical handrails, and after trying to climb in winter the outside steps of the New York Public Library, and Columbia University, I heartily concur with him.

Indeed, bearing in mind the feeble men and women who have a right to use a library, I plead for a "practical" handrail for all stairs. Many flights have no rail at all; the more ornamental they assume to be, the more dangerous they are. Many flights have only marble "rails," too massive for hand use. All "architectural" staircases are in fact deterrents of use.

Landings. More than a dozen steps are tiresome to most people; and in long flights landings ought to be provided. If a seat can be provided on each, it will be welcome to old persons. A window seat, in the windows used to light flights of stairs, can be made a decorative and also useful feature.

Circular Stairs. About the most inconvenient, useless, dangerous, and unnecessary feature which has come down to us from antiquity is the corkscrew stair, which still persists — I saw one in a plan only yesterday. It is inconvenient because only half of each tread is available. I measured one recently in a library: the wide outside of each tread was twelve inches deep, and it narrowed down to two inches at the central post. The nine-inch width (about the least allowable for a stair tread) was fifteen inches from the post, and only eight from the outside. The usable part of the tread was

eight inches wide, the wasted segment was two-thirds of the width, and served only as a trap to stumblers.

This dangerous and inconvenient futility was unnecessary, because a straight stair, with short flights doubling on narrow landings, could be planned to occupy no more floor area, with much greater practicable width, and be infinitely more convenient and less dizzy.

Try to carry an armful of books up or down such a flight, and remember the lesson. A ladder would occupy less space, and be just about as useful as a winding-stair. Why such a traditional inconvenience persists in modern libraries is an enigma.

Stories and Rooms Generally

Height of stories is a main factor in planning. The fewer and lower they can be, bearing in mind full light and ventilation, the less cost will go into unnecessary bulk in building.

Tell the architect what rooms and floors you want, with definite area and height for him to try to suit together. Never let him dictate what dimensions you must pack the rooms into.

In small libraries and in most branches, one story with practicable basement, is the standard. The height of this story is suggested by Miss Marvin as 12 feet, or better, 13 feet; or 16 feet if a second tier of floor cases must be provided.¹ She very sanely says that higher rooms are not necessary from any point of view, and this remark might be extended to most rooms in most libraries.

Where there is a stack, the desire to have as many floors of the building as possible, coterminous with stack floors, determines the height of stories at 14 or 15 feet, as the 7 or $7\frac{1}{2}$ -foot stack is chosen, and this will make rooms whose heights, plus thickness of floors (unless some use can be found for mezzanine rooms), are exact multiples of stack heights.

In a larger library (but still small), a second story over part or the whole of the main floor, can be lighted from above and be used for many purposes.

¹ p. 10.

Basement. The height of a basement will depend on the uses contemplated for it. An auditorium requires more height than small rooms for storage, vault, or janitor service. Miss Marvin advises a height of 10 feet, so that it can be used in any way wanted in future.¹

"A failure to use it is a defect."

It must be absolutely dry, and fairly warm.

"A well-lighted basement gives more dignity of elevation to a small building." — *Bluemner.*²

On a sloping site, a basement becomes ground floor, and a cellar becomes basement, for part of the building, with dark cellars and sub-cellars for the other part, which will come handy for heating plant, fuel, storage, and other functions. As the stack can run up and down from the main floor, such a site can be made useful in many ways.

Upper stories become more and more difficult to use unless there are elevators, which are costly to install and costly to run. In old houses, coming as a gift, the upper stories can be used for storage, study rooms, class rooms, trustees, and other departments infrequently needed.

The top floor, where there are elevators, may be one of the most useful stories, the most useful next to the ground floor, because the possibility of good top light allows every square foot to be used. If there are only three stories, the top may be used for many purposes without elevators, if the stairs are easy and ample. The principal uses are, for serious reading rooms, exhibitions, small study or class rooms, historical rooms, special libraries or departments.

Use of Various Stories. The assignment of rooms will be governed by the exigencies and policy of the

¹ p. 10.

² 3 P. L. 336.

library. A careful study of the use to be best made of the floors will be of vital importance toward economical and effective administration. In case of doubt as to the size or location of rooms, inspection of existing libraries of similar grade and class, and study of plans, will be helpful to stimulate ideas.

"It is a mistake to have the library on the second floor, at least the reading room and circulating department, which should have easy access and publicity." — *Fletcher.*¹

Correlation of Parts. Guides to arrangement will be consideration of processes, relation of users, and convenience in all steps of use or service. A recent English writer suggests arranging, in sequence from the entrance, newspaper reading, magazine and light reading, delivery, and quiet reference or reading rooms.

One great desideratum is continuous flooring on each story, even into the stacks, so that trucks can be rolled without jolt, and readers can pass without the discomfort of two or three steps up or down, here and there, as in many existing libraries. This irregularity of floor level is one of the worst faults possible.

Mezzanine Floors. Supposed architectural exigencies so often demand stories of greater height than library uses require, that it is well to have in mind what mezzanine floors can be interposed here and there, and what rooms can be assigned to them. Many staff rooms (for instance, stenographers' and others not crowded), and many readers (*e. g.*, private students, small clubs, teachers, classes, debating teams) do not require large or lofty rooms, and would be much better if they had only half the height of the large rooms. Only light and ventilation may require much height of walls, and even these only when many persons must use the same room.

¹ P. L. 1876, 406.

Not Thoroughfares. By no means make any reading room a passageway to any other room, or allow stairs to run up into it or up from it. Some of the worst faults to be found in existing libraries lie just here. Whatever increases movement in such rooms and disturbs students is a library crime.

Attics and Cellars. In old houses, the occupation of these unfinished spaces requires ingenious planning. But attics furnish dry storage, cellars dark storage, which can be utilized without expensive alterations.

In new buildings a cellar is essential, as a foundation at least, but may be glorified into a practicable basement without much cost; or may be minimized to an air space in small buildings; or shared by air space at one end and heating at the other. An attic is not so necessary, except a shallow air space. But even shallow attics can be utilized for storage-room by a trap door, and it is marvellous how much need of such room will be developed after occupancy.

If you have them at all, plan attics and cellars for some future use, even if they are left unfinished for the present. I remember an early experience of inspecting a library building with a view to alteration, and finding the attic so weakly trussed, and the cellar so solidly partitioned, that neither could be altered for improvement. Two-thirds of the building were thus wasted, which could have been used if it had been wisely planned.

"A building should stand high enough on its foundations to give the basement both light and dryness throughout." — *Winsor*.¹

¹ P. L. 1876, p. 475.

Walls, Ceilings, Partitions

The exterior walls come mainly into the province of the architect, subject to chastening by librarian and building committee as to material, decoration, massiveness, and cost. "The ideal building has no breaks or jogs and few corners." The interior walls and ceiling have been considered under the subjects of Height of Stories and of Coloring. Under the latter head they materially influence illumination also. In the decorative scheme they should harmonize with the woodwork and furniture.

The walls and ceilings not only play a star part in the cheerfulness and beauty of the building, but they materially affect the eyes and health of the reader. On their coloring and the character of the reflection they cast, largely depend the effectiveness of all diffused light, and the best part of reading light. They form a subject of especially important study.

Panelled ceilings which are often planned for decorative purposes, especially in large and lofty rooms, interfere injuriously with reflection of light, by intercepting it with numerous shadows.

All authorities agree that there be as few partitions as possible in small libraries, where departments can be indicated, or readers separated, by railings, cords, low bookcases, or screens of glass or light material, which do not interfere with general supervision.

Many rooms can be arranged with sliding or folding partitions, to be used for larger or smaller audiences, as required.

In large libraries, necessary partitions can be of such light construction that they can be changed or removed at will. Some partitions are essential; for instance, those of reading rooms to exclude noise, and of music rooms to shut it in.

All partitions should match the other coloring and style of rooms and furniture, to produce a quiet and pleasing effect of harmony.

"Buildings costing less than \$10,000 cannot afford space for partitions." — *Eastman*.¹

¹ p. 84.

Floors and Floor Coverings

Floors should be substantial, durable, cleanly, dry, thin, noiseless, slow-burning, and not slippery. Any uncovered floor will be noisy.

Stone, tile, mosaic, and concrete are noisy. Glass and marble are slippery.

Hardwood, or softwood covered with linoleum or cincene, will answer in most rooms and passages.

Variations of cork, or cork on a solid foundation, are very common, and have been found satisfactory. Invention is at work on this style of floor, and may evolve something near perfection, if fairly cheap. Linoleum wears badly, except in the best grades, and seems to be going out of favor.

The new Springfield (Mass.) library has sawdust concrete as a one-inch base for a cork carpet. The Louis building just dedicated has wooden strips over concrete to which a thick cork top is nailed.

Carpets and matting, general or in strips, are very objectionable in catching dust or mud, and difficult to clean off.

Rubber mats or rubber tiling has been favored for car-covering and for stairs.

*The Librarian*¹ reports from England, as follows:— Stone, mosaics, and the like, are seldom used except inobbies.

Plain boards do not wear well.

Wood blocks (oak or maple), rift-sawn and dressed (not washed), resist wear, though noisy.

¹ Vol. 1, p. 93.

"Good linoleum, cemented on boards, blocks, or concrete, resists wear.

"Rubber flooring seems superb, but has not been tested here."

[Nothing is said about corticene or cork, so much used in America.]

Several "floor dressings" are advertised, said to be of two general classes — dust-fixers, or beeswax polish.

Champneys¹ warns that angles of floor and ceiling with walls, and all interior corners of walls, should be rounded or "coved," for easy cleansing.

Miss Marvin² thinks that for a small library, plain cork carpet, of the best and thickest quality, without pattern, is best, being durable, noiseless and easily cleaned.

Bostwick,³ discussing various forms, and criticising each, says that a sheathing of soft wood, covered with linoleum, leaves little to be desired, though it sometimes rots, and that in various patent floorings no trustworthy standard has been found.

My own advice would be to watch developments, and take the matter up anew with your architect, in view of his experience and inquiries, added to yours.

¹p. 7.

²pp. 13, 14.

³p. 288.

Roofs, Domes

Roofs also the architect ought to know all about, but don't let him have them project so as to darken the valuable top light of any windows. This is a fault common in the bungalow type of small libraries. Whether they are flat or have more or less slope is matter of cost and effect. But if there is to be slope, except when there is to be a timbered roof in some room underneath, have it ceiled and used as an attic, even if low. You will not usually want an attic, but if the architect wishes the space, ask him to make it available for any future needs.

Of course, a tight roof is even more desirable in a library than in most other buildings. Leaks are as bad as fire for books, and are uncomfortable for staff and readers. But that is a matter for the building expert. So with fireproofing, for the roof is the exposed part and hardest to protect from sparks from neighboring conflagrations. In wooden buildings especially, have some fireproof or very slow-burning material for your roof: asbestos shingles, flat or corrugated tiles; or better, some kind of the slates of various tints which will match your walls; any of these will hold and extinguish sparks.

A roof so built and lined with air compartments that it will be warm in winter and cool in summer is a crowning merit.

Domes. Many architects are fond of the effect of a dome, but its top and bulb are of no use in a library, and the obsession of space below balks compact plans in the centre of the building. Domes cover many an impressive, and more or less drafty, reading room, but they waste bulk which costs, and dislocate departments.

If you see any views of libraries where domes are conspicuous you may set them down as failures, however beautiful; — bad types to imitate; their architects to be avoided. The only possible place suitable for a dome, is in a very large library, to cover a central reading room, and even there the space it must occupy ought to be very carefully studied at the outset, to calculate whether so much open height is the best way to utilize the cubic contents. It ought never be planned primarily as an architectural feature, and thus imposed on library methods, unless they are promoted by it, rather than hindered.

Alcoves, Galleries

From England, where alcoves in old libraries are so fascinating to travelers, I find this passage in *The Library Association Record*:¹ "The alcove system should probably not be mentioned in an essay on modern methods of book storage."

Oldest of library methods, the alcove even now lingers where it ought not. As I have said,² it is an agreeable feature where solitude and ease are allowable, but it is as much out of place in a public library as lounges would be, wasting space, blocking supervision, delaying service, deluding scholars with the illusion of isolation, and making their nooks the convenient harbors for whisperers. If you must have them, have them plain, and do not let them creep into your reading room in the guise of architectural piers and cornices.

"Alcoves oblige us to go twice as far as there is any need of. A large part of the books might as well have been stored in a compact stack." — *C. A. Cutter*.³

"Privacy is marred when several readers occupy the same table." — *Fletcher*.⁴

"The alcove plan, obsolete and incompatible with further progress." — *Bluemner*.⁵

"Wasteful of space, impossible of supervision." — *Champneys*.⁶

¹Vol. 12, p. 446.

²p. 48.

³16 L. J. Conf. 104.

⁴p. 74.

⁵3 P. L. 40.

⁶96.

"The greater distance attendants must go, materially affects the service.

"There is much discomfort to readers who go into an alcove to be out of the way, and who are distracted by the passing to and fro.

"Supervision from the counter is impossible." — *Burgoyne*.¹

And the new-old monstrosity of the early American type elsewhere described²— may it never be revived,— the unholy marriage of alcoves and galleries.

Alcoves might be used not only in private or club libraries, but in such rooms as Mr. Foster's "Standard Library," or the "Library of the Masters," Mt. Holyoke College, which may be regarded as cosy club-rooms, in which easy chairs and footrests are not considered out of place.

Galleries survive in the old world, and in old libraries with us, but they have no friends in new libraries. They are better than high wall shelving served by ladders. If less than 2 feet 4 inches wide, and if approached by spiral stairs, they are nuisances to be abolished.

¹p. 12. ²p. 13.

Light

This is the most important topic in library planning. Other problems considered elsewhere, the storage, handling and service of books, affect economy and efficiency of administration, the future annual cost of good service, more than lighting; but this touches the comfort and health of both readers and staff. Whether the eyes of the public are weakened, and the service they ought to expect from attendants is impaired, depends largely on lighting.

On the shape, size and position of the windows, therefore; on the selection, arrangement and installation of the system of artificial lighting, depends the solution of the question how can readers work? how can their servants the staff work for them? how can both retain their eyesight and health, best and longest?

This subject calls for serious planning by architect and librarian, most serious consideration by the building committee.

Here is one of the points where the best is none too good, and where expense should be considered last. Economy in first cost, economy in running expenses, must be always borne in mind, but here surely is another point where purely architectural features,—domes, columns, approaches, marbles, ornament of all kinds,—should be sacrificed, rather than convenience, comfort or health.

I treat this matter at length under the subsequent heads of Light Natural, Windows, and Light Artificial.

Health of readers and books. I have hunted in vain for some exhaustive discussion of the influence of electricity on health. I have found observations on the effect of sunlight on the color of bindings; for instance, Prof. Proctor's Report of a Committee on Protecting Leather from Light, in *The Library Association Record*,¹ where he says, "When building a library a good transparent coloured glass may be employed which will not only give an almost equal light when compared with white glass, but will at the same time protect books from the evils of direct light."

I have also found many cautions against heat on the head of readers from unshaded gas or electric lights too near, but nothing on the general subject of electricity as affecting either men or books. Experiments in this direction are yet to be made.

See an article in *Library Notes*² on "The Eyes of the Public."

¹ Vol. 8, p. 642.

² Vol. 1, p. 288.

Light, Natural

There has been so much difficulty in getting good light into all parts of a library, and so much joy over the substitution of electricity for gas, that there is some danger of daylight being ignored. Dewey¹ pictured "a solid core of books with modern lighting," and B. R. Green² argued elaborately in favor of disregarding natural light altogether under certain conditions. It is quite time someone championed God's free gift to man. For daylight, notwithstanding its occasional glare and its temporary defects, is still the cheapest, the readiest, the cheeriest, and the healthiest light for men and for books.

Indeed, the modern advocates for substitutes seem so far to have spared readers, and only included stacks in their enthusiasm. But I have not yet entirely surrendered hope of stacks, and I have many sympathizers. The late James L. Whitney was an excellent and experienced librarian. Not long before his death, he and I were stumbling through the dark corners of the stack in the library of which he was so long a faithful servant. As we fell together, he turned and said impressively, "If you ever plan a library, insist on having ample natural light wherever you can get it."

I quote Champneys³ in support: "While the direct rays of the sun are often sufficiently powerful to become an inconvenience to readers and a source of injury to [the bindings of] books, yet such are *their purifying properties*, that their total exclusion is not recommended."

¹30 L. J. 249.

²31 L. J. Conf. 54.

³p. 10.

The old monk-architects knew their business. In the earliest specimens of monastic libraries, note a full-width window opposite each alcove. In the library of the Sorbonne, Paris, in 1638, there was "plenty of daylight on the desks from east and west, to fill the whole length of the room."¹

Light should never be so admitted as to dazzle the eyes of readers, or blind them while searching on the shelves for books, or reading at their desks. The ideal direction to strike them is from behind, and from the left, with no shadows falling on book or paper.

Prismatic glass is recommended, to aid in throwing light into dark places, like courtyards or cellars. Translucent glass (as used in the Library of Congress) "sufficiently softens the rays of the sun in the southerly windows."

"There should be abundance of daylight with least direct sun." — *Fletcher*.²

"Good, natural light is the first essential." — *Marvin*.³

Aspect. In planning, the aspect of each room is very important. North, as in studios, is the best aspect when direct light is always needed, though it will be cold if without double windows in winter. East only has direct light when it is apt to be most grateful, in the early morning hours. South is apt to be hot and glaring, though the sun is too high at noon to strike far into the rooms; but west lets in slant or level rays of hot and blinding light which needs screening. Which front to give a room is matter varying with climates and localities, and needs special study always.

Modifying Glare; Curtains. To certain aspects, south and especially west, direct sunlight brings unpleasant glare, and in summer intense heat, so that it is really necessary to use shades or screens. *Bostwick*⁴

¹ Clark, 165.

² p. 43.

³ p. 15.

⁴ p. 286.

recommends that shades for large windows be double, either up or sideways. In the Library of Congress all the shades in each stack can be drawn or withdrawn simultaneously. This is often the arrangement for high windows in large reading-rooms.

It may be pointed out that good taste in choosing colors for shades will do much toward allowable and very effective decoration in a library, without added expense.

be square-topped (which shuts out the Gothic style), and not overhung by eyebrows, nor should they have thick sashes, bars, leads or mullions, which hamper light. Leaded glass, especially in diamond or lozenge forms, is hard to clean. Clear, large panes of good plate glass are best. Study use rather than ornament everywhere, but most in windows.

These suggestions as to school rooms might apply to libraries:—

"The top of the windows is placed as near the ceiling as the finial will admit. Transom bars should not be permitted." — *Sturgis*.¹

"Large sheets of glass rather than the art filagree work so often used, which obstructs fifty per cent of the light." — *Burgoyne*.²

With these essentials in mind look at the illustrations under this head, or *passim*, in Sturgis's Dictionary of Architecture, and see how few of the picturesque windows there could be used for any reading or administration room of a modern library. Either pointed or overhanging tops, or heavy frames, or transoms, or mullions, or traceries, or leaded panes, must be barred out by the architect who designs libraries.

High or Low. If the windows must run to the ceiling, they have to be high. How long they are to be, how low they extend, depends on the height of the story and whether or not wall shelving is wanted below them. If the library has more than one story and has a stack to limit the height of stories to fourteen or fifteen feet, shelves all round the wall will be wanted in many of the rooms. The shelves at extreme height should only be eight feet to top of cornice, or could be any less height, down to about four feet, that the exigencies require. The window can take up as much of the remaining height

¹ Article, "Schools."

² 8 Libr. Asso. Record, 182.

of wall as needs of lighting demand. This leaves some alternatives of length and width for the architect in arranging his exterior.

High windows above wall shelving are much used, as exterior views will show. One consideration has occurred to me, which I have not seen mentioned. In libraries where there is no window low enough to jump out of, and only one entrance on a floor, where is the extra fire escape usually demanded by municipal building regulations?

High or Low for View. Some objection has been made recently to high window sills in a library because only low sills allow a cheerful outlook. I just put the alternative to a working girl, as a typical user, and she said, "How could I read if I was watching a squirrel?" This seems to put the matter in a nut-shell. Library windows are for light, not for sight. In private libraries or in clubs, the cosy comfort idea can come uppermost, but in the more practical rooms, especially in reading rooms chiefly for reference use and study, I should get diffused cheer, so to speak, from diffused light, and bar looking out of the window. As to the working rooms, much the same view might be taken, but if a librarian or a cataloguer pleaded for low sills and a cheery outlook, I might consider the "personal equation," and concede it.

"In German schools, window-stools are set high, and the lower sash glazed with ribbed glass, so that the pupils cannot look out." — *Sturgis*.

Skylights. From the plans I judge that flat skylights are more often used in English libraries than with us. Much objection is made here about keeping them tight and clean, and certainly leaks and grime are fearsome in a library. But I have heard architects aver that

skylights can be made leak-proof, and if they can there are certainly many perplexities of light they would relieve.

"Top lights always should be double to stop direct sunlight and prevent draughts. There is great trouble in making them rain-proof. . . . Large squares of plate glass are better than small panes or leaded lights. . . . Double windows are necessary where traffic is heavy." — *Burgoyne*.¹ [This is a provision to deaden noise. In America, a double window is only a protection against winter cold.]

Clerestories. There is often this alternative, to "cabin" the skylight, or set regular clerestory windows in the walls. This can be made a beautiful feature, and if it does not add too much to the expense, and if enough light can be got by them, in the proper spots, with provisions for easy cleaning, they are certainly free from most of the objections to skylights.

[See effective clerestory windows in the "Concourse" of the Salem Public Library.]²

¹p. 26.

²L. J. June, 1912.

Light, Artificial

But granting the superiority of daylight, it is available at the best for no more than part of the library day. The thronged hours generally follow a winter twilight, and sometimes range far into the evening. What light is most cheery, the clearest, the healthiest, and the cheapest, for these long hours of use?

Oil. Very small libraries have little choice. They have to cling to the old-fashioned oil lamp. But they are not so unfortunate after all, for though filling and trimming and cleaning make trouble, no softer or better reading light has been invented; and swinging argands can give excellent diffused light, as many a country store will show. With a few such lamps and an open wood-fire, no such cosiness and cheer can be matched by a city library.

You can manage good home-made shades to moderate the glare, from home-made material — even from brown paper. It will be well to cling to oil until you have no time to attend to the lamps.

Gas. The next stage is acetylene gas, which can be had without a public plant, and furnishes a steady and brilliant light. After it, comes usually the regular gas stage of community development. If the gas plant is good, the light may be good too, though its fumes are often hard on lungs and books. If the plant is poor, better go back to oil.

Electricity. But the use of electricity has become so general all over the country, even in small towns, the light is so good, so safe, and considering the advantages, so cheap, that you are likely to arrive soon at the electrical stage, and remain in it permanently through the various steps of your growth. It is unnecessary in these days, to warn against defective installation; any architect should be able to arrange that; but watch it carefully, in planning and as the contractors put their wires in.

With either form of gas, or with electricity, the choosing and placing of lights will be one of the most important of your joint problems.

As far back as 1886, J. E. L. Pickering contributed a paper on the electric light, to *The Library Chronicle*¹ which is so sound that it is worth reading now — a generation later.

Location. In placing your lamps of all kinds, do not think first of symmetry or appearance, but try to find where the fewest bulbs, of the kind you determine to use, will bring the best light most directly on the places where it is wanted, with the smallest expense.

The kinds of illumination required are:—

Diffused. This is the general light in corridors and rooms, sufficient for moving about, usually got from chandeliers, sometimes from wall brackets.

Shelves and service desks. In usual systems, these are lighted, the desks by different kinds of fixed or hanging desk-lights, the shelves by a goose-neck protruding at the top, from the cornice between every two ranges.

Readers'. Usually lighted by rows of lights, shades down the center of the tables; or movable individual standards near the readers' chairs, or by hanging lamps, six or eight feet from the floor.

¹ Vol. 3, p. 173.

In stacks. By bulbs at the ceiling of each desk, either hanging down, or doubled up.

Colors. As elsewhere noted, light colors in walls, ceilings, shelving and furniture, aid any system of lighting by reflection.

Switches. The location of switches is most important both for effectiveness and for economy.

Systems. I do not propose to discuss here all the systems of lighting or makes of lamps and fixtures, but I wish to record a very deliberate opinion as to the proper trend of experiments in library lighting.

Seeing a book advertised on "Practical Illumination," by Cravath and Lansingh, I bought and have carefully looked it over. The seven pages it gives to libraries have not helped me at all, but I have found on other pages matter of interest. This, for instance: —

"The object of artificial illumination is to enable us to see things."

"It is undoubtedly true that the eye is more comfortable when receiving a moderate amount of light from all directions, *as it does in daylight*, than when getting all its light from a bright page in a dark room."

"The ceilings and walls, if light in color, have considerable value as reflectors, especially in small rooms."

[On page 7 is a table of percentages of light reflected from different wall papers.] .

The scientific discussions of forms of bulbs, the material of reflectors and the forms of shades, are very interesting. So is a series of "demonstration room tests," especially No. 11,¹ showing a fine diffused light, thrown from a concealed bulb by a reflector at the ceiling.

¹ After p. 138.

"Even more important than the economic side of the subject is the disastrous effect on the eyes caused by numerous common artificial lighting arrangements."

"The ruin of eye-sight now common with artificial light is due to the fact that so few people understand the importance of the proper placing, reflecting, and shading of artificial lights."

"In order not to injure or fatigue the eye, the following points should be avoided:—

Flickering light,
Glaring lights,
Glare reflected from paper,
Light from unusual angles,
Too little light,
Too much light,
Streaks of light,
Sharp contrasts of dark and light."

"In the lighting of desks there are five principal requirements:—

The lamp should be out of the line of vision.
Have no regular reflection or glare from paper.
Have the light free from streaks.
Avoid too great intensity.
The light should be steady."
[I add: Don't get in your own shadow.]

"The three reflectors best suited to lighting the shelves of the library are the opal dome, the fluted opal cone, and the prismatic reflectors."

Indirect lighting. This is defined thus: "The lamps themselves are not visible. They are placed in cup or vase or trough mirror-reflectors, from which the light is thrown up towards the ceiling, to be thence reflected down into the room."

Systems of this kind as used in libraries for all service except in stacks — for diffused light, shelves, service desks, and readers' tables — seem to me to be most like natural daylight, and therefore best unless too costly.

The Report of Oculists and Electricians on the Boston Schools,¹ reported against indirect lighting, believing that "the cost of current to secure a proper illumination would be prohibitive." They added, however, that "No actual experiments were made with indirect lighting, as objections to its use seemed so obvious as to render them unnecessary."

This was in 1907 (for schools) before the experiments in libraries described below had been made.

So far they seem successful. The Crerar Library has tried one for two years. Mr. Andrews says in his last report (1912): "The indirect system of lighting has been extended over the official catalogue and the offices. Longer experience confirms the opinion that under suitable conditions the system is the best for the prolonged use of artificial light, although this is not always recognized by persons accustomed to more concentrated illumination. For this reason it has been supplemented to some extent in this library by table-lights in the reading-rooms." He writes me further, "It is undoubtedly more expensive, but it is in my opinion also much better."

A similar system was installed in the John Hay Memorial Library at Brown University a year ago. Mr. Koopman writes me (Apr. 18, 1912):—

"Given rooms reasonably adapted for it I should call it the ideal library system.

"In our high reading-room [twenty-eight feet high], the conditions are especially unfavorable owing to the deep panelling of the ceiling. But if I were to choose afresh I might still prefer our present system; I certainly should if I could have a flat ceiling [for maxi-

¹ p. 13.

mum reflection of light]. But for rooms of twenty feet in height and under I do not see how for library purposes one could choose a different system; certainly most rooms in libraries come within that range."

As the height of the ordinary room in a library need not be more than twelve or thirteen feet; or, if it has to correspond with two stack stories, 14 or 15 feet; Mr. Koopman's commendation would hold for all library rooms, except lofty halls.

About the lighting of the lofty room, Mr. Charles A. Coolidge, architect of the John Hay Library, writes as follows:—

"I think the indirect method of lighting in the rooms where the ceilings are not high, is very successful. It is only in the main reading-room, where it made so many hanging fixtures, that I did not like the effect; it is also expensive, as they have to use so many more lights. It does not seem to me very cheerful there, and I think the effect would be better if we had two chandeliers in the room at appropriate places where they would give a general illumination, and would be high enough to keep the light out of one's eyes."

I hear that this system is also used in the new St. Louis Public Library building, but have no report as to its merits.

From these experiences, west and east, and from my own observations of other systems in very many libraries, I am prepared to recommend trial of indirect lighting; especially as encouragement of makers will undoubtedly induce them to remedy any faults and develop all merits. For diffused light it is enough, always and everywhere. For shelves, from top to bottom, it is enough. For staff desks and for readers with strong eyes, it is enough. Weak eyes, accustomed to concentrated light, may need more; hence I take it the extra

Crerar lamps. New patents are already appearing. Mr. Andrews further says in his letter: "A combination of this method with the direct system, called 'semi-indirect,' is used in the City Club at Chicago."

It is even possible that the expense of installation and operation may be reduced.

Fixtures. Have these plain and substantial. If you do not try some indirect system, but hold to direct lighting, do not surrender yourself to the first or the most insistent agent. Urge your architect to a deliberate study of lamps, their power, position, bulbs, and shading, and indeed all their appurtenances and fixtures.

Do not, in the first place, let the architect arrange the lamps for picturesque effect. If he can make the lights ideal for service and for readers, well and good; but get the utilitarian effect first; the artistic afterwards, if you can.

Again, do not accept too meekly the salesman's or contractor's or architect's selection of shades and fixtures. Watch, inspect, read everywhere, and when you make up your mind clearly what is best for you, insist on getting it. But avoid especially "art fixtures."

I have been especially warned not to use the ornamental chain pendant for chandeliers, like that shown after p. 14 of the above mentioned Report of Oculists. The slightest draft will twist them, and break the wires inside.

And for desk or table electric reading lamps, use the movable and self-adjusting kind, so that every reader can turn on his own light, and arrange its angle as he chooses.

In General. Very large libraries can perhaps economize by installing their own electric plants, but get

It is often the custom to put reviews and other serious magazines in the reading room, leaving all the popular or recreative serials in the room for light reading.

There are frequent articles in English library journals about arrangement of magazines, but I find nothing among them which seems to improve on methods generally understood here. See Duff-Brown.¹

"A really effective system of displaying periodicals is about as difficult to find as a first folio Shakespeare."
—*Burgoyne*.²

The few newspapers taken are generally mounted on sticks and hung from racks, though I have seen them left loose on tables.

¹ p. 382.

² 4 Lib. Asst. 197.

Heating and Ventilation

Except far north, these look out for themselves fairly well. As winter approaches, they ought to look out for each other. When you begin to plan for artificial heat, you can plan for ventilation at the same time.

In the smallest libraries, in wooded regions, wide fireplaces with wood fires make cheerful if not very even heat, and excellent ventilation up the chimney. In places where wood is scarce or dear, some sort of stove, like those used in groceries, depots, or schools, is next called into play. The interior view, for instance, of the Keene Valley Public Library (in Eastman¹) shows such a stove at the right. The floor plans show a "wood-house." In buying a stove, one of the makes with a jacket, on the furnace principle, can combine heat and ventilation best.

Fireplaces. We do not often use coal grates, but architectural features common in our libraries are wood-fireplaces. The excuse for introducing them is cosiness, cheerfulness, and ventilation. They are certainly cosy when a fire is kept up, but tending them requires a deal of time, the heat is rather irregular, the ashes are a bit blowy. Ventilation is no better by fireplace than through any other aperture, unless some sort of flame is kept up—a tiny gas-jet under the flue sometimes serves as an irritant. As usually built they cost money; and they usually interfere with wall-shelving which is needed. In small libraries with wall space to spare,

¹ p. 87.

where wood is the cheapest fuel, it may be well to have a fireplace with a fire tended by the townspeople; but in larger buildings fireplaces are generally nuisances, to be banished to the trustees' room, if the architect wants one somewhere.

Champneys¹ thinks "open fires are to be avoided in all public rooms, because of unequal distribution of heat, of dust and noise, and of labor." This is undoubtedly true of soft-coal grate fires, such as they have in England, but has Champneys ever seen the cleanly cheer of a country fireplace, full of six-foot logs? Few of us can afford them even in forest regions, but what an invitation such a glow offers in a rural neighborhood!

The next step beyond the stove would be the ordinary dwelling-house hot-air furnace; doubled or reinforced by a small one, if the house is a little too large to provide properly-gauged heat for all varieties of weather by one furnace.

During these smallest stages of growth, reliance for ventilation can at first be placed on crevices, occasional opening of doors, and the open chimney.

Window Bar Ventilation. When these rudimentary means become inadequate, the simple device of window bars (as I have found in my own house and office for a generation past) will keep even the air of crowded rooms freshened, without drafts. There are many patented devices embodying this principle, but there is no need to waste money on them. The village carpenter can saw out for every window a plain duplicate of the lower bar, a quarter of an inch shorter, but beveled like it, to slip in easily and tight. When the lower sash is lifted, this bar inserted, and the sash shut close to it, there is a space above between

¹ p. 24.

the two sashes, which at the same time lets out the foul air, and lets in the fresh, without any perceptible draft. The only caution to be observed, even in cold weather, is to put the bar on the leeward windows, away from those against which the wind is blowing too strongly. This simple fresh air system is very effective. Try it on one window anywhere, and see if you do not like it.

The Next Method. Next comes steam heat, very common, very unsatisfactory, very cheap; with radiators, very ugly in a library, very much in the way; requiring some scheme of admitting sufficient fresh air regularly, and ejecting air that has been breathed.

A low-pressure indirect hot water system gives the best heat, most easily managed and properly combined with fresh air supply. The only reason that it is not universally adopted is that steam boilers and radiators are cheaper. Here, however, is one of the alternatives in library building where the money available ought to be put into health and comfort rather than into mere show.

For ventilation, in the simpler forms of steam and hot-air heating, the simplest, cheapest, and often most effective method is to take fresh air by several inlets direct from outside, up under radiators, to be heated by passage through them and let out into the room.

In large libraries, some more effective system of heating, with forced draft ventilation by blowers, fans or inducers, must be installed by the architect under advice of competent engineers. The part of the librarian in this stage of planning will be to get the building committee to take the most effective method, rather than the cheapest, diverting to this essential of health some of the funds which can be withheld from inside or outside ornament.

Temperature. One of the striking differences between England and the United States is that in the standards of temperature, Champneys¹ calls for 60° to 62° Fahrenheit for rooms, 56° for corridors. Burgoyne¹ reports 50° in the stack at Strassburg.

The A. L. A. Committee on Ventilation and Lighting takes as the standard 70° as a medium temperature for the circular inquiries it is making. It is usually assumed that a lower standard may be set for stacks, and places where attendants or readers move around rather than sit. Certainly we try to keep our houses and offices and the reading-rooms of our libraries 68° to 70°.

In General. An article in "The Librarian,"² specifies five heaters, thus:—

1. Open fire grates; cheerful but troublesome.
2. Hot-water radiators; popular.
3. Steam radiators.
4. Gas or electric heaters; only for small rooms.
5. Coal stoves; not desirable in libraries.

Thermometers. Perhaps the architect can plan his heating apparatus so cleverly, or your janitor can run the plant so watchfully, that an equable and agreeable temperature can be maintained everywhere. Among your fittings, however, do not fail to plan for plenty of thermometers as indicators to be watched by the staff. Underheating promotes discomfort, coughs, colds; overheating stupefies staff and readers.

Basic Advice. In 1893 Dr. John S. Billings, now of the New York Public Library, published an interesting and sensible volume on Ventilation and Heating, in which, however, no special mention is made of libraries. I quote some general remarks, which seem pertinent:³—

¹ p. 24 *et seq.*

² Vol. 1, p. 91.

³ pp. 20, 21, 22, 23.

"It is important that those who form and direct opinion on this subject should look to it that the buildings which they plan, and especially those in which numbers of men, women or children are to be brought together, are so constructed and arranged *that no one shall poison himself or others by the air which he expires.*

"I do not mean by this that every man should aim to be an expert on plans and specifications for ventilation, nor that he should rely on his own judgment as to the best way to secure it, but that he should insist on having it provided for, and should see that skilled advice on the subject is obtained.

"Among the first questions which the architect has to solve for each building which he plans or constructs, in order to secure good ventilation are the following:—

"First — How much money shall be allowed to secure ventilation in this case?

"Second — Which of several methods should be employed to effect this, taking into consideration the character and location of the building, and the amount of funds available?

"It is also the business of the architect to see that the builders do not, in a spasm of economy or retrenchment, make a reduction in some point which will affect the ventilation, rather than cut off some of the merely ornamental and comparatively useless decorative work of the exterior.

"However much the architect may be inclined to let the owners have their own way in planning their own residences; when it comes to public buildings, it is his duty not only to advise but to insist on proper arrangements for heating, ventilation, drainage and plumbing. If it be his misfortune to deal on such matters with ignorant committee-men who with a limited appropriation persist in omitting, for the sake of cheapness, some of those

points in construction which are essential for keeping the building in proper sanitary condition, it is *his duty as a skilled professional man to decline to have anything to do with the matter* rather than suffer himself to be used as a tool to execute work which he knows will be dangerous to the health and life of his fellow-citizens or of their children."

These are ringing words to be addressed to an architect. How much more do they apply to the librarian who is the expert adviser not only as to effective methods of work, but also as to the comfort and health of all his staff and for all the public who are to use the building.

A paper by Dr. Billings, on the special subject of Library Heating and Ventilation, after his experience in New York, first in old buildings and now in a new building, should be of very great value.

Plumbing, Drains, Sewers

This is another group to be provided for satisfactorily before any money is allotted to frills. The architect ought to be expert in all three specialties; but a householder wants to know just what the architect is going to do in building his house. The librarian is in this instance the housekeeper, at least, and has not only a right, but a duty, of inquisitiveness; for carelessness or mistakes on the part of draftsmen, ignorance or worse on the part of workman, might seriously affect the health of a large number of people.

Underdraining. Is your lot dry down below the foundations of the building? See to this before you start to build, for a damp basement for a library leads to book-tuberculosis, if nothing worse.

Drains. Gutters send a lot of water down from the roof, and unless this is led away by tight conductors, leading into drains that are sure to carry it off, the resulting moisture will gather along the foundations and show on the inside walls. I have had experience and expense with this trouble on my own premises.

Sewers. In cities, drains and sewers usually combine in joint drainage. Here you have to watch your own grounds, your neighbors', and the town's connections; avoiding interference, and watching for loose joints, careless workmanship, and downright dishonesty. Watch your architect, watch the contractors.

Plumbing. Be very careful that the water pipes do not run too near, or behind or directly under or over the shelves. Bursting pipes threaten damage and disaster to books.

In indicating where you want your water-fixtures, remember that unnecessary scattering entails unnecessary expense. Economy demands, and efficiency rarely forbids, putting pipes in stacks up and down stairs, one fixture under another, and all near chimneys or somewhere else safe from freezing.

File plans. As suggested under another head, keep your plumbing and drainage plans separately, file them in a pamphlet plainly labelled and catalogued. You may want in a hurry sometime to know just where every pipe and drain can be got at easily.

Cleanliness

Prevention. It has been suggested that library windows, especially stack windows, be made tight, never to be opened; but the hermetically sealed library does not seem to appeal strongly to the public. Dust can be excluded by carefully planned vestibules, and by opening windows only at certain times, and in certain winds, when dust outside does not drive in. In many large libraries, methods of dust-absorption are provided for air-inlets, and such excluders are common to all systems of forced draught.

Inside Dust. In addition to the dust that drives in from the street, and that which rises from mud tracked in, there is some that is evolved from certain book-bindings and from processes of handling, which has to be kept down. Library housekeeping is a steady process.

Cleaners. The old-fashioned sweeping and mopping with the old implements, are not yet out-of-date, but there are many more or less expensive patent sweepers, which are supposed to be dustless. Vacuum cleaners have come to stay. Mr. Hodges of Cincinnati anticipated their use in libraries years ago, and made an effective machine of his own. A simple way is to open dusting ducts, in which books may be dusted while all dust is blown away outside. But in a large enough library, it is now wise while installing a stack, to have some system of vacuum standpipes built in to reach every floor; and in any library some of the simpler and more effective forms of patent sweepers or vacuum cleaners may be provided and stored in basement, attic or closets.

Bowls and Taps. Sinks with taps for filling pails are useful on all floors, for scrub-women and for first aid in fires. They can easily be combined with wash-bowls, thus avoiding multiplicity of fixtures.

Wash-bowls. Using books is not always cleanly work, and both attendants and readers often need facilities for washing their hands. Wash-bowls can be concealed in closets or tucked into special cupboards in shelving, where they are not obvious. There are too few of them oftener than too many in a library. Consider the rooms there where staff or readers might wish to wash their hands after handling dusty books. Frequent ablutions would cleanse the users, and protect books. Children, sometimes adults, come to the library with grimy hands, so that wash-bowls near entrances may be welcome conveniences. But all bowls should be set where they can be watched by one of the staff.

"The library of the future will be found to contain lavatories where every one wishing to use books will first have to cleanse his hands."—*Reinick*. See p. 222 *post*.

Protection from Enemies

Blades in his "Enemies of Books" enumerates Fire, Water, Gas, Heat, Dust, Neglect, Bookworms, Mice and other vermin [to which he might have added book thieves, extra illustrators, mutilators and defacers].

Against the latter group, supervision is a deterrent.

Gas is vanishing before the electric light.

Neglect we cannot allow, or plead guilty to.

Bookworms and vermin have not apparently worried our libraries as much as those of the old world. They can hardly be guarded against in building, except as we guard against moisture and filth.

Fire is a great danger in our climate. There is some quality in the atmosphere — some latent condition akin to electricity, which feeds flames. We have concluded that limits of expense and considerations of convenience render it impossible to make our buildings, or any part of them, except the vault for valuables, absolutely fire-proof.

In view of the fact that books will always remain combustible, and sensitive to injury from smoke and water, it is now generally conceded that all we need aim at is isolation, slow combustion through "warehouse-construction," hollow walls, iron or steel shelving, and the like.

Outside iron shutters are considered clumsy, and not so good protection as distance from other buildings. Inside iron doors are frequently neglected, and tend to curl up in hot flames. Local fire regulations sometimes require protected doors through partitions — for which

slow-burning wood, tinned, is preferred. These are often interposed between the stack and the rest of the building. The stack can be made more fire-proof than the rest, without much extra expense. Its greatest danger, shared with other parts, is from crossed electric wires. Against these, careful installation by conscientious electrical experts is the chief protection.

Thoroughly fire-proofing the boiler-rooms, ash-pit and waste-paper bin is a protection any building can have, and in many cases these can all be set outside. Heating-pipes can be kept from contact with woodwork or books, and can be protected with asbestos or otherwise.

Material is a great factor of danger or safety. Wood, unless treated chemically, is more dangerous than iron or stone, but inside iron needs protection from flame, lest it yield when most needed. In the San Francisco fire, brick and terra cotta withstood heat better than marble, granite, sandstone, or limestone.¹

The great use now made of concrete for floors, ceilings, partitions, and walls renders modern buildings safer from fire, and is to be commended especially in libraries.

The roof is vulnerable and should be of non-inflammable material, fire-proofed if possible. Sparks blown from neighboring conflagrations, lighting on an unguarded public building, give the greatest outside danger. Tar roofs are said to be non-combustible, when properly gravelled, but do not be too sure of them. Tile, slate, asbestos-shingles should insure you.

Elevators. These and lifts furnish in their shafts dangerous draft-flues for fires starting below. If there is any way to provide doors and trap-doors easily managed, to shut off every floor, one great danger of spread of fire is removed.

¹ Geo. T. Clark, 12 P. L. 256.

Glass. As outside shutters are objectionable, tough wire-glass, which does not break easily from heat, will furnish a measurable protection from outside fire, without materially diminishing light. Indeed it may transmit or reflect light better than large panes of plate glass, which shatter too easily.

Fire-buckets on every floor, prescribed in many insurance regulations, are not so necessary when there are water-taps handy everywhere, as recommended above. Fire extinguishers, however, are not superfluous.

Standpipes. In large buildings the local fire department can aid the architect by suggesting the most effective location for service pipes to command every corner of every room and passage most effectively and economically.

Lightning. Lightning rods, once deemed so essential, do not seem popular now, but metal standpipes, and steel stacks, well-grounded, would certainly serve to carry lightning down to the depth of permanent moisture. I cannot hear that lightning has ever found stacks attractive.

Water. Leaks are bad for books, and fussy for folks. Roofs and cellars may let in moisture, and a library needs tightness in both. Unless it is well constructed and tested at the outset, the leaks, the seepage of a building are hard to find and to stop. No care and thought should be spared concerning this insidious enemy, from choosing the site to flashing the roof-tree.

Since drafting this chapter, I am reminded by an article in Vol. I of the "Library Association Record,"¹ of certain bookworms or grubs I have found in old books from the damp shores of our gulf states. Mr. Widman

¹ p. 369.

of St. Charles College is quoted as saying, "We see the time when we shall have to burn part of our books to save the other part." But I find no suggestion as to any provisions in building which would check such pests. Rigid exclusion of moisture from foundations and walls would probably be the only palliative.

I have noticed cloth bindings of books, especially public documents from gulf states, badly eaten by roaches.

William R. Reinick, Chief of Documents in the Philadelphia Free Library, has printed results of experiments as to insects that destroy books, in Scientific American Supplements of Dec. 24, 1910, and May 11, 1912. He says:—

"It has been stated that more books have been destroyed by small forms of life than by fire and water combined."

"Heat, dampness, and dirt deposited in handling books, develop worms, etc."

"Libraries keep many books in dark places, badly ventilated. Darkness, damp air, and leaving books long undisturbed, favor propagation of small forms of life."

"Light and cleanliness are the two most important factors in preventing the ravages of insects and also of fungi which grow upon and in books in a damp, warm atmosphere."

While few libraries in our northern states have suffered from book worms and the like, will it not be well to experiment before entrusting rare books to sliding cases, or any books to dark central or especially underground stacks?

Stacks. There is one danger in many stacks. A wide space is left between "deck" and shelves on each edge. The danger of dropping small articles like pencils and pads is elsewhere spoken of, but do not such unnecessary wide spaces increase the danger of fire from below and leaks from above?

Fire-proof Vaults

But if it is deemed unnecessary to go to the expense of fire-proofing the whole building, it is certainly necessary for every library which has valuable books, manuscripts, or records, to have some sort of a strong room, proof against both fire, moisture, and ordinary book-thieves. This should be large enough for present treasures and probable growth, and can be treated as one of the luxuries of the building, where luxury can be afforded. It need not rob any reading-room of light, but can be located in a dark corner of the cellar or elsewhere which seems useless for any other purpose. Unless watched, builders are apt to slight vaults, and finish them rough, shabby, or damp. This is inexcusable, now that such conveniences are common in banks, even in small towns. There must be many expert and honest vault builders in every large city. For light, ventilation and comfort refer to any "Safe-Deposit Vaults" below banks. For absolute security read of the safety with which so large a quantity of bonds came out of the Equitable fire in New York. When you allot your bids, take the expert constructor of the firm contracting for the vault, into your confidence, and ask his advice about such late improvements as need not increase his bid. He ought to want the advertisement of your approbation as much as you want an excellent piece of work.

A plain fire-proof brick bin for waste paper and rubbish and one for hot ashes are guardians against fire.

A common safe will be enough for the account books and most essential records of a small library which cannot afford a vault. If the floor is made strong enough, it can be kept in a corner or a closet reserved for it in the librarian's or trustees' room.

Central Spaces

Large rectangular buildings have central spaces and one of the first questions for the planners—indeed the key to the whole design—is “what use shall we make of this space, leave it open, devote it to reading or delivery, or occupy it by stacks?”

Areas are often used to light basement windows, but they are apt to catch rubbish and in winter to invite snowdrifts, which are difficult to clean out. Where they must be used they are better if extended to form a sort of moat, wide enough to be reached by a special flight of steps, for use in cleaning, and lined with white stone or glazed brick to reflect light into the basement.

Courtyards. In large buildings, a large courtyard admits light to all the interior walls, but is usually too wasteful of space. The interior is generally used either for delivery, reading or stack; not solidly occupying the whole available space; lighted from the top, and so shaped as to leave small corner courtyards as shafts for light and air. If the walls of these shafts are faced with glazed brick, they may light, very effectively, inside rooms, passages and stairs.

Kept Open. In the Boston Public Library, the central space was planned for architectural effect, and left open. This arrangement, if the interior walls had windows planned for light, rather than for effect, would render both faces of all four sides of the building, available for useful rooms; but as it is, adequate light is not

given to rooms, and thus is wasted. When attention was called to this waste, and to the disjunctive effect which threw communications out to exterior lines, the advocates of the scheme enlarged upon the opportunities it would give for readers to carry books out there and read under the æsthetic effects of a canopy which excludes direct light from the lower story, as the monks of old are pictured as using their arcades. With this in mind I have often peered out there from the staircase windows, but have never detected such a reader. The present effect may please æsthetic visitors, but I doubt if it could secure a vote from practical modern librarians.

Central Reading Room. With the huge reading rooms of the Library of Congress and the British Museum in mind, anyone can understand this use, which is striking. Whether it is the ideal form for a reading-room is more doubtful. It certainly, when high, wastes a deal of room in upper space, not needed for light or ventilation, and it needlessly blocks light which might render the inner fronts of the building useful for various purposes. In this position of the reading or delivery room, the corresponding stack would cross the rear, and perhaps range along the sides of the rectangle.

Central Delivery. Another use is for the main delivery, with generally a lower roof than a reading-room would have unless obstructive. If light for this is drawn from above it will be ample for enough floor shelving to bring certain parts of the open-access books near to the desk and catalog.

Stacks. Sometime in the future, all the central space of a large building may be given to a solid stack, from sub-cellars to roof, lighted only by electricity, ventilated from above by forced draught, and opening on reading and administrative rooms all around.

But until this era of dark storage (which heaven forbid!) there is a possibility of stacks in the form of cross-sections, or a Greek cross, with corner areas for light and air, and feeding a smaller central room for reading or delivery, or even feeding suites of reading rooms around the perimeter after the fashion of the Library of Congress building.

Combination. Still another use of the center space is possible (as in the new Brooklyn Central Library plans): stories of stacks below, delivery-room above, on the level with the ground floor of the building; the reading room above that.

Dark Places. There will inevitably come corners in every building where full light cannot get in. Some faulty buildings are full of such corners. Study the plans you find, to detect such faults and avoid them. When your own plans, after all your care, disclose such spots of darkness, think over your various needs and see if some use cannot be made of such otherwise wasted gaps. There are some closets, even rooms, which do not require any light, or require it so seldom that a flash of electric light, now and then, will serve almost as well as daylight. For instance, there is the book vault, the photographic dark room, many closets for supplies, shelves for duplicates; heaters, coal bunks, ash and waste paper bins, *et id genus omne*. All such that you can relegate to places hopelessly dark, will leave so much more free daylight to be used.

Closets. Closets in a library need not be as numerous as in a dwelling house, but they are about as useful. Careful planning can get them in where they are wanted without sacrificing space which can be used for books or readers. For instance, rooms as you have to fit them into your floor plans often have one dimension a bit too long. Some times, you have a librarian's room which

seems rather to waste two or three feet farthest from the windows. Make a closet of this, or a nook for drawers and books. The next room is a thought too wide. Slice two feet off the width into a row of cupboards or wardrobes. Show your ingenuity in such refinements of planning.

And every closet is much like every library. It is capable of, and it deserves individuality. Instead of making a dozen closets alike, plan a separate use for each, and lay out its drawers, shelves, cupboards, books, wash-bowls, beforehand. This will save you steps and minutes later, and reap the satisfaction of smooth service.

Store-rooms. Store-rooms differ somewhat from closets — they are more wholesale. They require much planning in detail. Do you want bins, open shelving, or glass doors? Do you want hinged doors, or sliding? Do you want bins or drawers below, and shelves above? Do you want the same treatment all round and perhaps in the middle of the floor? Do you need high shelves, or pigeon-holes, or pegs, or hooks?

You must plan storage for stationery, material, labels.

Closets of course, can be used for storage, in addition to other uses, toilet, wraps, etc.

Lifts: Elevators

Lifts. By this phrase are designated booklifts — for single volumes or small lots, as distinguished from elevators to carry passengers and boxes. Lifts are chiefly used in stacks, and will be considered under that head. They are also needed between administration rooms on different floors, as from the unpacking room to the catalog-room, and from the desk or the stacks up to special reading rooms.

For small libraries, hand lifts can be made to run easily. In larger libraries, electric lifts save a deal of time, but these are more expensive in first cost and cost of operation and repair.

Champneys¹ says, "Line cages with leather or rubber. Attach clips for papers."

Elevators. These are not at all needed in small libraries, and their use should be postponed as long as possible as a library grows larger, not only on account of initial cost, space required, and danger of furnishing upward drafts in case of fire, but because of the treble cost of running — power, manning and tinkering. They are one of the necessary nuisances of large buildings.

When used, they may be installed in dark inside corners, and should so accommodate passage up and down that less space need be put into staircases. They should open outside rather than inside rooms, even if

¹ p. 29.

special corridors have to be provided. The stir of operation, entrance and exit is very disturbing for staff as well as for readers.

The necessity of installing an elevator marks a debatable and epochal point in the development of a library. Indeed I have thought of classifying buildings,— those which can get along without elevators; and those that must have them. Here comes a great leap in the expense of operation.

The number of elevators in the building, their size, their position, the system of operating them, all have an immediate bearing on annual operating expenses, and in very large libraries need a vast amount of special study and conference.

Mechanical Carriers

Some jubilation has been expressed by librarians and architects over the conquest of space through the aid of invention, but space and time have not yet been entirely annihilated. Two hundred feet by carrier may be shorter than a hundred by foot, but it is still twice as far as a hundred feet by carrier, and in planning to use mechanical aids, it is still necessary to remember that a straight line is the shortest distance between two points.

For small packages and small libraries, tubes (pneumatic propulsion or exhaust) are the simplest contrivance for horizontal carriage, and they will serve many purposes in larger libraries.

In large buildings it is usually wise to provide some sort of machinery from remote parts of the stack to the delivery desk, and also direct to the reading-room floors; although the leading specialist on this subject, Bernard R. Green¹ of the Library of Congress, warns that they should only be adopted as a matter of necessity, for they require expenditure, space and complicated machinery. There are forms to be studied in most of the very large libraries, government, university and public. As every new library building will probably devise some decided improvement in tubes and carriers, I will not take space here to describe the different devices now in use, but will advise very careful study of every problem as it arises. Burgoyne² describes the Boston Public

¹ 25 L. J. 679. ² p. 250.

Library System.¹ The Library of Congress underground system which has been in continuous service satisfactorily since 1897, has also been very well described in *The Library*.²

It seems to me that the services I have seen are heavier, clumsier and slower than is necessary, and that something of the ingenuity that has been put into commercial cash-carrier systems might devise for libraries book-baskets, run on wires, which would serve all purposes for single volumes or small lots of books. Those now operating also suggest frequent stoppages for repairs. "Carriers that turn corners are apt to get out of order," says Bostwick.³

But at all events, no conveniences of machinery should serve as an architectural excuse for separating or increasing distance between departments.

Tunnels. For passage from cellar of one building to another in groups; or from one wing to another in the same building, underground passages may be required. They are usually floored, ceiled and walled, with stone or cement, but it has occurred to me that in some cases, large cast-iron water pipes, well laid, would make a cheaper, tighter, stronger and otherwise more satisfactory communication. For staff usage the height of a small man is sufficient; for bulky boxes the size of a car running on rails, and drawn by hand or by endless chain, would define the width, and a slight additional height would allow for overhead hanging book-baskets.

¹ See L. C. Report 1910 .p,355. ²2d Ser. Vol. 2, p. 285. ³ p. 284.

Telephones and Tubes

These are most necessary for quick work. All libraries with more than one story, or even more than one room, can use speaking-tubes to advantage. They are inexpensive, and are easily put in while building. If installed at first, they need not cost much, and save many steps, if they be run only from the librarian's desk to the janitor. For larger libraries, they can connect desk and stack, librarian and assistants, departments with each other. In stacks they are very serviceable, placed next the lift and running both to delivery desk and to janitor's room. In still larger libraries some form of house-telephone will speed and simplify service, with an exchange desk, switchboard, and special operator.

Consult the local telephone company about the different styles and prices. You will perhaps be surprised to find how cheaply they can be set and run, even as compared with a speaking-tube system.

Dr. Richard Garnett recommends the telautograph for transmitting inquiries and orders,¹ and also says,² "In planning large libraries, it will be necessary to take mechanical contrivances into account to a much greater extent than hitherto."

Less marble columns, fewer dadoes, and more tubes and telephones, would ensure a better working library.

¹ Ess. in Librarianship, p. 253.

² *Ibid*, p. 271.

E.

**DEPARTMENTS AND
ROOMS**

*In this Book
suggestions are made
as to location and equipment of
every room in a library.*

*Note especially
Stack-towers, Carrels, and
Sliding Cases.*

E. DEPARTMENTS AND ROOMS

PART I

ADMINISTRATION ROOMS

While books are the substance of a library and readers the object, how to bring them together is the key to arrangement of the plan; therefore the first consideration among rooms is here given to administration.

Except as otherwise specified later, the working rooms ought to be put in the center of the library, in order of processes for handling books and serving readers, and ought to be in the most direct connection possible with each other, with stacks and with reading rooms. Here centers good planning.

Always remember what economy lies in close connections, concentration, and short distances.

Every saving in communication may mean an attendant saved, and a smaller pay-roll.

"Ease and smoothness of administration are to further public service or lessen expense." — *Bostwick*.¹

"They must be in sequence, so that books may be (1) received; (2) catalogued; (3) prepared; (4) shelved, without jumping around from one part to another." — *Idem*.²

See excellent article by W. K. Stetson on centralized administration, 36 L. J., p. 467.

¹ p. 84. ² p. 28.

In his article on Library Buildings, in the U. S. Public Libraries Special Report of 1876,¹ Justin Winsor pictures the preliminary operations of preparing books for the reader — the first steps of administration, as carried out in a large room, surrounded by stalls connected by tramways for book boxes, and supervised by a superintendent from a raised platform in the centre, who directs the successive operations and operators, all under his eye.

This arrangement persists, but except so far as it governs packing and unpacking, is now usually separated into different rooms, all made parts of a suite, connected either horizontally or perpendicularly, and served by special lifts and elevators.

Such rooms for a large library are here described in separate chapters. In smaller libraries practically the same operations are compressed into fewer rooms.

¹ Part 1, p. 467.

Trustees' Room

In very small libraries none is necessary; nor need one be set aside, as the library grows larger, until other more necessary rooms are provided for. The trustees as a body do not meet every day, and their committees only meet an hour or so at a time, so that they can well use one of the staff rooms whose occupants can temporarily get busy elsewhere, or use special rooms only occasionally used.

In growing libraries, when rooms have to be set aside for any purposes which do not require constant occupation, any one of these can be used for trustees. Their meetings, and those of their committees, are generally held in late afternoon or evening, when it would not interfere with intermittent processes or infrequent readers. It has always seemed to me that a Local History room would be an excellent refuge for trustees in a building where space had to be economized, especially as local history is a proper function for a small library with either an active librarian, or an active local society, or both.

When the library gets larger, it is well to consider that the trustees represent the public which owns the library. They are usually selected with care for what is held to be the most honorable position in town. They serve without pay. In character, in prominence, in responsibility, in service, their board deserves prominent recognition in planning a building. As they will use their quarters less often than staff or readers use their rooms, they need not take up any space which is desirable for

active departments. They can be put anywhere in the building where space can best be spared. But as they are sometimes elderly men, they ought not to be expected to climb many flights of stairs, and in buildings without elevators, should not have to go higher than the second floor.

In furniture and decoration, a deal of money has been wasted on trustees' rooms. They ought to have a cheerful, cosey, dignified and comfortable room, but as no library ever has enough money for its actual needs, it is willful and sinful waste to devise massive and costly furniture (usually very uncomfortable) and splendid ornament, for the modest gentlemen (and ladies) who will spend a few hours there every month.

Good proportions, cheerful color, good natural and artificial light, a warm carpet perhaps, a ceiling not too lofty, comfortable yet not necessarily expensive furniture, with lockers or hat racks, even a fireplace if the architect thinks it would add to the effect of the room (here a fireplace would be most permissible); these will make an apartment where trustees can be at their best, wise, sensible, never contentious or captious.

Even then, it does not seem necessary to set aside an otherwise useless room entirely to a board which occupies it so seldom. Think if it cannot be put to some special use, for clubs, or if that would desecrate it, to housing some special collection not likely to be wanted at the hours of board meetings. By all means shelve it round about — there is no decoration in a library like books in good binding, even in bright cloth covers, — and let it be one of the semi-public rooms, to be shown with pride; or sparingly used by those readers or students who deserve to be ranked as users with trustees.

Librarian's Room

Though the delivery room be the center of service, the librarian's room is the center of direction. Whether it should be close to the delivery room or to any special department, depends first upon the size of the library, then upon its class and methods. Sometimes it is thought well for the librarian not only to be in close touch with his staff, but to be accessible to the public. If he does not wish to use his time entirely as an information clerk, a position may be assigned to him quite apart from staff or public rooms, on any floor. Modern systems of tube or telephone (which should always be liberally provided to keep all departments in close call), will sufficiently overcome distance to enable him to summon to his room anyone he wishes to see. Champneys even suggests an extra exit as an escape from bores, if they succeed in getting in.

Where his position is to be, in the building, it is for the librarian to decide, provided the trustees approve him sufficiently to keep him to run the new building. He is to run it, and he ought to have the place which will let him run it most easily, according to the methods he may wish to follow. No one else should compel him to go where he will be hampered by any discomforts.

As to arrangements and furniture, there will be needed such tables as the size of the room may allow, such chairs as the occupant may require, as well as enough for visitors, wardrobes for his clothes, closets for his stores (see list of stores which may be needed in a stationery cabinet — *Duff-Brown*¹), private toilet room, a space

¹ p. 281.

(usually) for a small fireproof safe for his and the trustees' valuable immediate papers, such wall shelving as he may require for his personal books and bibliography, telephone and tube space handy to his seat, a keyboard for keys, and enough free floor space for such revolving bookcases and such floor cases as he may further require, not to forget passage room for visitors.

As to location, so as to arrangement, the librarian should here have a free hand, however much he must yield his preferences elsewhere. It is his room, and should be a part of his individuality. To allow this to him, is the first and longest step toward good administration during the whole life of the building.

In England, a private residence is often provided in the building for the librarian, but seldom or never in America.

Ante-room. In a library of some size, a comparatively small room, or even two or three low rooms are very much better for the librarian than one large, high room. If there is an assistant librarian or private secretary, he needs a separate room, and if there is to be a private stenographer, she can share this outer room, and either part of it, or still another room can be assigned to staff or public, waiting for their turn of admittance. Indeed, a suite of three not very large rooms is quite ideal, especially as many of the librarian's impedimenta can be distributed over the larger shelf and closet space available.

Heads of Departments. In a large library with departments, each of their heads should have his own little room or rooms, according to his duties and the bulk of his records, close to the center or edge of the groups of rooms he is to manage, with such tube and telephone communication as will place him in close touch with the librarian, with his inferiors, and with such other departments as he aids in serving.

Other Staff Quarters

Staff work is divided by Bostwick¹ into,—

Administrative, which would cover librarian, his assistants, and heads of departments.

Contact with the public, including those of advisory, educational, or disciplinary duties.

Clerical, subordinates in offices and catalog departments.

Buying and distribution, including those engaged in preparing and circulating books.

Care of Building.

This would indicate a group or number of rooms for each class, the "administrative" (already treated) and "buying and distribution" somewhat clustered, the "clerical" and "contact with the public" distributed among the others, and the "care of building" generally centered in the basement.

In addition to these classes or groups, a general room or rooms will be needed in a large library for staff meetings, staff lectures and staff training school. One large room should serve alternately for all such purposes, especially if divided by sliding or folding partitions to make of it either a large or small room as desired. Special audience or school furniture is needed here.

¹ p. 192.

Public Waiting Rooms

These are not wanted in small libraries, where the space left in front of the delivery desk will provide for casual visitors as well as for those waiting for books.

In large libraries, it is well to provide a place where visitors can rest and have the privilege of talking, and where members of the staff may see friends, if necessary. This is best near the main entrance. Indeed, a vestibule demanded by the architecture can be utilized as such a room, and if it can also be made a show room for book rarities and curiosities in glass cases, a museum for statues, busts and portraits, and a general porter's hall and information office, it will justify its existence and relieve the working rooms in the library of many embarrassments. Here, also, may be bestowed grand staircases and all cumbrous architectural features that cannot be wholly barred out.

Such very public rooms, as distinguished from what might be called service waiting rooms like the librarian's ante-rooms and the space left before the delivery desk for the applicants who have sent in slips and are waiting for their books — are better outside of the partitions of the working library. The latest plans for the Brooklyn central library provide, on a triangular lot, for an apex which seems to fill this need and some architectural features, without seriously infringing on working or service areas.

Stenography Rooms

Staff. Besides the private typewriter of the librarian, there will be others in large libraries for heads of departments (indeed, wherever there used to be a clerk or secretary, there must now be a machine), and a number in the catalog suite, ranging up into the tens or twenties, as more or less books are being put through various processes. These all may be called staff stenographers.

Even in libraries of moderate size, where there is a possibility of gifts or other growth which will require special cataloguing, it is wise to leave room in the cataloguing suite for extra stenographers, when suddenly wanted.

Public. There is also needed in large libraries, provision in private study rooms for readers or authors, and some special rooms for public stenographers on call, ready for extra staff or readers' demands for copying, dictation, or anything legitimately connected with the use of books. Such rooms are among those to be placed on mezzanine floors or in a special wing or corridor. Like music rooms, they ought to be built with sound-proof or sound deadening floors, walls and ceiling; for readers who are not dictating are often and excusably sensitive about the clicking of others.

Place for Catalog Cases

This chapter covers the space to be allowed in rooms for the catalogs themselves.

Very large libraries require whole rooms for catalogs alone, usually one room for the general card catalog and another for the Library of Congress cards.

In all but very large libraries, card catalogs for the staff and for the public must be provided for in some way. They can be separate, but the form most economical of space is the double-ender set into the wall between cataloguer's room and delivery department, with drawers which can be pulled out from either end. The obvious inconvenience is that they may be wanted at both ends at once. Notwithstanding this, they are much used, to save space if not labor.

A nice problem in planning is the placing of card-catalog cases not too far from the delivery desk, where they will not interfere with other uses, and where they will get ample light. The most usual way is to set them against partition walls, with space in front for a narrow table to which drawers can be moved and rested during use.

Another convenient arrangement is to make a sort of floor case; a wide table in the middle of the floor, with catalog cases back to back on top, leaving a ledge on each side and at the ends, where the table projects.

Stools are used with these rather than chairs, mainly because they take up less room and are not used for long periods.

The English books speak of other styles of catalogs, but we use no other form except (rarely) different kinds of printed catalogs, which are kept loose on tables or desks.

As to floor space required for catalog cases, see that heading later on. Placing them is a nice and critical question of planning.

Note that a Library of Congress card-catalog room separate is called for by the Brooklyn Public Library.¹

¹ See Appendix.

Cataloguing Room

In small libraries, cataloguing has to be done in the librarian's rooms or at the delivery desk. In larger libraries one large room or a suite of rooms is needed, and requires careful planning by an experienced librarian. Ample light is naturally the first requisite. North light is most regular and less glaring, but is somewhat cold and cheerless. Large windows, or what is practically one window along one side of a room, the windows running up from the level of the tables clear to the ceiling, are best. The working tables (better single or double desks perpendicular to the windows) should occupy the window side, with service tables (trestles will do) in the next space. Then floor cases for bibliography and books in transit, also perpendicular to the light, and wall cases beyond with a ledge, will conveniently furnish the room. If, as usual, the different processes of handling books are performed in this room, not only cataloguing proper, but selection, ordering, accessioning, shelf-listing, collation, labelling, numbering, and marking or covering, must be foreseen, in due succession. A lift at one end from the packing room should bring the books, to follow the order of work, over bins, or tables, or desks, or shelves, leading either to the delivery desk or the stack. One room is often not enough — a suite of rooms is required, perhaps up and down stairs. (Do not be tempted to use circular stairs; they are criminal; see under that head, p. 177.) See the John Hay Library plans, for a central "stack," so to speak, of such rooms, planned for speedy and economical service.¹

¹ 34 L. J. 205.

For order of work, see Winsor,¹ and Bostwick² who enumerates other processes. This suite is a cosmos in itself, for which no architect unadvised could possibly arrange.

Even with an expert librarian to advise, the local librarian and the local corps of cataloguers ought to be consulted, and their methods and tastes should be heeded. An irritating incidence of light, an awkward stretch or carry to the shelves, a clumsy arrangement of desk-surfaces or window seats, might disconcert the best of cataloguers, and so far spoil the building.

See view of the cataloguing room in the Library of Congress, L. C. Report for 1901, p. 224.

¹ Pub. Lib. 1876, p. 469.

² p. 193.

Delivery Room

This is the department, under our American system, which in all libraries should be on the ground floor, and as short a distance as possible from the front door. In small libraries, it should be the center of the ground floor space, where that whole floor, and the top or foot of such stairs as there are, can be supervised by one attendant. Miss Marvin¹ locates it approximately as 12 feet (minimum) from the door, 16 to 20 feet "to the rear shelves," but this of course depends on the size of the building.

Oscar Bluemner² thinks that the counter, the catalog, and applicants need not take up more than 10 x 15 feet in a small library.

In somewhat larger libraries the need of central location holds. The book shelves are generally behind the desk, one reading room (or two sober-reading rooms) on one side, another (or two where a certain amount of stir and noise may be expected) on the other. The space in front, from desk to door, should be planned for most of the stir and necessary noise, except that of open shelves. If there is a small vestibule separated from the delivery room by a glass partition, drafts and dust will be shut out, and a space allowed for the flutter of entrance and exit, leaving the space from door to desk for book applicants, querists, passage to other rooms, catalog case, bulletins, waiting, and such other uses as may be assigned to it.

¹ p. 10.

² 3 P. L. 240.

Champneys¹ warns that the space here should be calculated for the maximum use at any time of day or evening, not for an average. Of course, so noisy a room cannot be reckoned on for any kind of reading, although if large enough such guides as directories, railway time tables, local maps, etc., might be used here to advantage.

Such a delivery desk should not be put in a room intended for study or quiet reading, unless perhaps in colleges, where stir may be expected as classes come and go every hour; but even here the entrances and exits should be put where the delivery desk stir and catalog use are on one and the same side, leaving the centre and other sides for readers, to be as undisturbed as possible.

In large libraries this delivery room can have more and roomier facilities, such as settees for those waiting for books. In the Providence Public, there is an Information desk on one side, a Registration desk on the other, near the front door. It should still be on the ground floor and not far from the outside entrance. More people flock here than elsewhere, and the less tramping through corridors they do, the better for them, the readers, and for the cleanliness of the premises. When other rooms or passages open out of the delivery room, a platform slightly raised for the desk will aid supervision.

Light. To get a sufficiently central position for delivery room and strong enough light on desk and catalog, seems to be, judging by inspection of libraries and plans, an especially difficult problem; but it should not be insoluble to a clever librarian and a bright architect.

The English plans do not help us much with ideas, for their system is herein different from ours. "Fewer

¹ p. 70.

people go to the lending department than to the reading room," says Duff-Brown,¹ while with most of our American libraries all readers get to these rooms through or past the delivery room. And in a "barrier lending library," as Champneys calls it, the counter is much longer than we use, even if there is no "indicator" to elongate it.

As the size, location and relative connections of the delivery-room largely determine the convenience of the whole building, the shape, capacity and practicability of the delivery desk determine the excellence of this department. See p. 348.

Here the practical and ingenious librarian has his best chance in planning.

¹ p. 95.

Janitor

The janitor in any library has important functions. In the smallest he is the only assistant, and can be of great service to the lone librarian in service, supervision and in substitution when she is away. In a library of any size he is housekeeper, not only assisting in handling books, but running the heating and lighting systems, superintending or performing all services of cleanliness, and often acting as special policeman in preserving order. He deserves a room of his own, even if it be a simple one in the basement. In large libraries he has a small residence suite, and is always on the premises as day janitor and night watchman. See Bostwick, p. 284, where he advises janitor's private residence in all libraries except very small ones. But are janitor's families always germane? I should say, only in very large libraries is it best to provide a janitor's residence suite in the building. But in most libraries he has a home elsewhere, with only an office in the library. In this case he needs for himself only a table, tool bench, chairs, a closet for clothes and brooms, a box for tools, and a snug toilet room.

Packing room. Winsor¹ assigns this room to the basement, "a large hall, with raised platform in the center for superintendent, with stalls about the walls for successive processes, with rails running past them for book trucks." But most of the processes he describes

¹ P. L. 1876, p. 469.

are now prosecuted near the catalog room or suite. The packing room is located in some convenient part of the basement, directly under the other administration rooms, with which it has direct communication by tubes and lifts. It should have a separate door to a carriage-way, and in large libraries can have a package platform and freight doors opening out of it, for loading and unloading boxes of books.

The uses assigned to this room are generally packing and unpacking, central provisions for cleaning, light repairing of books and furniture, laying out for binder. Its furniture can be scant and simple: work tables or trestles against any free wall space, trucks, an adjacent closet or two, good windows on one or two sides, for light on processes, some shelves for laying out books in transit.

Cleaning. Here is a good central place for the paraphernalia of these operations, brushes, pails, cloths, and the like, not forgetting closets for the clothes of scrubwoman.

See Bostwick on Cleaning.¹

¹ p. 289.

Binding and Printing

Bindery. Every library has to have a lot of repairing and binding done. Is it better to have your own plant on the premises or to contract to have it done elsewhere? E. R. N. Matthews¹ says that out of forty-seven English libraries he inquired of, twelve had binderies. He endorses the idea, having installed one at a new branch for his own system, in a separate building, with plant he enumerates, bought second hand for £50.

In small libraries it is easy to decide; nothing except simple repairing by the janitor can be done at home. Whatever has to be done from time to time can be sent out on contract. In view of the space taken up, the bulky and noisy machinery, the cost and trouble of selecting and storing stock, the danger of labor troubles and fires, and the bad odors of glues, the ownership of a bindery would naturally be put off until it can be proved to be a great economy in time and money. Champneys,² following Duff-Brown,³ says that "Binderies are not required except in very large libraries." I say from considerable business experience, save yourself cost, risk and trouble, by not trying the experiment.

If you must have a bindery, a good place for it is the basement, in or next to the packing room, where books are being handled. Some authorities suggest the attic, but it seems to me that the quiet and top light of the upper floor make it too valuable for finer purposes, to be spared for such "base mechanical use."

¹ 8 Libr. Asso. Rec. p. 73.

² p. 107.

³ p. 289.

Every sizable library ought to have at least a bindery repair-room or nook for repair work in the janitor's or packing room, where one or two skilled workmen or girls of your own staff can do light repairs, pasting and the like. But this is the limit of work in the building wisdom requires you to provide for.

See M. W. Straight, "Repairing Books."¹

See E. R. N. Matthews, "Library Binderies."²

See H. T. Coutts, "The Home Bindery."³

Printery. So with printing. Very large libraries may have a complete outfit, but, as Bostwick says,⁴ "a library of any size may well have a small outfit for printing letter heads, envelopes, cards, pockets, book plates, etc." This may be in the same room as the bindery down below. If to be installed for the first time, and the librarian has not had personal experience, a practical binder and printer should be consulted as to space, light and fittings required.

Miss Marvin writes to me, "I have liked a suggestion made by Mr. Doyle, architect of the Portland (Or.) Public Library. He feels it a mistake to plan for all administrative work and storage of books not frequently used, in the central library, built on expensive land with no space to spare. . . . I have never known a public library practical enough to build a warehouse on inexpensive land near the edge of a town for the storage of books, or the receipt of books on which clerical work is to be done before distribution to the branches. . . . These details for school collections, traveling library collections, and other clerical work, as well as binding, repair, etc., had just as well be removed from the central library, and the space there used for reading rooms and necessary offices."

¹ 5 P. L. 88.

³ 9 L. W. p. 233.

² 8 Libr. Asso. Rec. p. 73.

⁴ p. 219.

[See Matthews' mention of a central bindery in a branch in England.]

This is worth considering, provided the need of removal is urgent. There are administrative questions to be considered, however, besides cost of land or construction; such as service, care, carriage, etc.

The larger the building, and the more stories, the more opportunity there is, by exercising economy of space and cleverness of arrangement, to find room there for these distributing functions, which are easiest controlled under central supervision and close to the books.

One thing I would never do — consent to such removal until every superfluous architectural area, in vestibules, corridors, staircases, etc., had been eliminated, and the building reduced to its lowest possible denomination for necessary central work.

Room for Service of Branches

In large libraries, room must be provided for laying out, shipping and receiving books for branches, deliveries, traveling libraries and all other kinds of outside activities. How much space these may require may be inferred from the fact that the Travelling Library office of the New York Public Library has a stock of fifty thousand volumes and seventeen employees.

It should either have direct shipping doors, or should open into the packing room, with good access to the shipping facilities there.

Besides tables, desks and shelving for the general use of superintendent and clerks, with corner for telephones to the branches, etc., and to other departments of the main library, there will have to be bins for such dispatch service. As the books come here from the stack, nearness to it, or some form of mechanical connection with it, will save much time. Here, as in so many other departments of every new large library, is opportunity for individual planning.

See Winsor, P. L., 1876, 470.

“ Bostwick, L. J., 1898, p. 14.

“ L. J., 1898, Conf. 98, 101.

“ Cole, U. S. Ed'l Rept., 1892-3, Vol. 1, p. 709.

“ Wilson, R. E. P. L., 1901, p. 275.

“ Duff-Brown, pp. 350-356.

“ Sutton, C. W., 6 L. A. R., 67.

Comfort Rooms

Rest and Lunch. In England always, and oftener here than formerly, even in small libraries, a room or rooms are provided for the relaxation of the staff. "Especially for women, humanity and a wise economy prompt comfortable rest rooms, as they are not as uniformly in robust health, and are more subject to sudden indisposition." — (*Bostwick*.¹) In view of the good these can do, in refreshing attendants, and keeping them in the building, as well as the fact that such rooms can be tucked into space not really needed for anything else, and also because of the moderate expense of fitting them up, it seems a great pity to cut them out of plans, as I have known building committees to do from false ideas of economy. A room for rest and lunching, a tiny "kitchenette" adjoining, with gas stove, one room if you can for men, another for women; or in smaller libraries a common room for a library mess, will do a deal toward infusing an *esprit de corps* into the whole staff. A timely cup of tea will soothe the nerves and stimulate the jaded to renewed vigor. This is so much a matter of housekeeping that the advice of the ladies of the corps can wisely be taken as to equipment, including store closet. They can be trusted to get everything needed into little space, at little cost.

See article in *Public Libraries*² on "Comfort in a Library," where it is said a room 6 x 6 can be made to serve.

Wraps. As far as clothes are concerned, the staff have got to be given cleanly and satisfactory places to

¹ p. 201.

² Vol. 10, p. 237.

leave hats, coats, umbrellas and overshoes during working hours. These should be in the basement, or some place not so far through corridors as to have much tracking of mud. If they can be afforded, ventilated wardrobe cupboards, with a shelf above low enough to hold the prevalent style of ladies' hats, a box below for rubbers, and interval enough between for a long wrap or fur coat, should be provided for each person; private cupboards for all private rooms; staff cupboards in the staff rest room, each one with lock.

For the public, a convenient umbrella stand (automatic locks will improve it), and rubber pigeonholes near the entrance will prevent dripping around. There are various makeshifts — racks for hats under chairs, coat rails behind chairs, or at the end of tables (see Tables, p. 344, and Chairs, p. 346) or hat racks in passages, and the like. In the larger libraries, where coat rooms become necessary, they can be slipped into narrow rooms under staircases or in passages near the vestibule.

"Every reading room should have hooks or trees for coats and hats, and stands for umbrellas." — *Eastman*.

"In small libraries coat rooms should open from the delivery room, overlooked from the desk." — *Marvin*.¹

Lavatory. Need of frequent wash bowls on all floors has been spoken of elsewhere. A common lavatory for women and a separate one for men, open both to public and staff, is a great convenience, and may render fewer separate wash bowls necessary, — a desideratum as far as cost goes, for plumbing is a great expense, and part of planning is to concentrate and reduce to a minimum "stacks" of plumbing. For this reason water fixtures on separate floors should be superimposed rather than scattered.

¹p. 10.

Sanitary Facilities

These must be furnished separately for men and women of the staff, but whether or not they need be provided for the public is a question both here and in England. Miss Marvin¹ is positive that public toilet rooms are a great nuisance, and should be omitted always, at all events from the main floor. Burgoyne² reports opinion divided, but thinks them advisable where a separate attendant can be afforded. Is it not mainly a matter of size and location? Large libraries must provide them for large throngs; libraries of medium size must offer some refuge for serious readers who have to spend many hours over their books; small local or branch libraries, whose users live not so far away, may omit them. The trouble and expense are against them, convenience and health are in their favor. If the park board or public health authorities will provide them somewhere near, the problem is solved. Where they can be avoided in small libraries, and where children throng, much trouble of personal oversight will be saved. If they must be installed, here is certainly a problem to be solved in convenience, separation, and casual supervision of entrances and exits.

¹ p. 15.

² p. 19.

Vehicles

Automobiles can be ranged at the curb in front of the library; they lock or care for themselves. Hitching-posts in rural districts will tether horses. Bicycles, not so much in evidence as they were once, may be left in racks in front, or in some place provided for them in lobby, or inside the rear entrance in the cellar.

In a large library, with courtyard, or even without, an inclined approach to the basement is possible. In St. Louis it runs from one street corner, down along a side of the building, then turns into an open underground entrance to the basement. Such a passageway takes from the street the library's vehicles for branch service, etc., and if there is space inside, and the surrounding streets are narrow, it might well give safety for visitor's vehicles.

Duff-Brown¹ thinks bicycles are best housed outside. Champneys² says, "don't allow them in corridors."

In busy thoroughfares of large cities, or, indeed, in small cities in this age of street Juggernauts, provision may well be made for safe ingress and egress for decrepit readers near the curbstones. Some forethought, taken by architect in conjunction with street-car officials, would land many users in the new building without much of the flurry and danger which often hovers over the approaches.

¹ p. 112.

² p. 103.

PART II

BOOK STORAGE

The several rooms will be treated separately, also different methods of shelving. The phrase "book rooms" is not used herein as in England, where book store or book room means only book storage, as distinguished from staff rooms and reading rooms, but will include all kinds of shelving, whether used for book storage only or combined with handling and reading.

In an article on Book-storage by H. Woodbine in a recent number of *The Library Association Record*,¹ he states the factors of past development as, —

1. Economy of space.
2. Economy of cost.
3. Expansibility.
4. Adjustability.
5. Safety from fire.
6. Protection of books (from pests, dirt, damp, etc.)
7. Convenience in service.

It is well to bear all these in mind when planning any library, though I should put the last first, and add cleanliness. They would serve as comprehensive tests of all kinds of shelving, wooden or metal; wall, floor, or stack. They are such important details in library service that I will take up the different forms of shelving in considerable detail.

¹ Vol. 12, p. 453.

Shelving, Generally

General rules in shelving are: (1) No book should be above reach of hand from floor. This means about $6\frac{1}{2}$ feet (less in children's rooms) or $7\frac{1}{2}$ feet to cornice, or top of top space. Don't use steps or ladders, they are obstructive and troublesome to use.

(2) Uprights should not be more than three feet apart, to avoid sagging, and weight in handling. Somewhat less is sometimes advised, never more.

(3) All shelves should be of the same measurements and interchangeable, for obvious reasons, throughout the library. Unadvised architects are apt to fill nooks and spaces with shelving to suit. This may not be so objectionable in fixed shelving, but is fatal with movable shelves.

(4) Shelving should be movable as well as adjustable. Private libraries and very small libraries can get along for a while with fixed shelving, but when books of different sizes accumulate, and close classification is adopted, movable shelving is necessary.

(5) Edges and corners of shelves and supports should be rounded. If hands or books strike sharp edges roughly, they suffer.

(6) There should be no projections to catch clothing. Watch this, especially in stacks.

(7) In shelving or supports, do not leave projections to catch dust. This is often a fault of carved end-uprights.

(8) Have both upper and lower shelves accessible and well lighted for easy inspection. Wherever there is ample room, use of only the breast-high shelves is more convenient both for inspection and for handling.

(9) The old-fashioned ledge is not needed, except in a few instances. It unnecessarily widens the aisle above, interfering with close storage. Wide books can be stored elsewhere; and space to lay books down in handling can be provided near by.

(10) The average dimensions of shelves¹ are well settled by custom; *e.g.*, *Length* (as above), not over three feet; *Depth*, eight inches, except for special sizes of books (see later); *Thickness*, for wooden shelves, $\frac{7}{8}$ inch finished, (1 inch stuff, planed); *Interval*, wood or metal 10 inches (11 inches top to top of wooden shelves) for octavos and duodecimos, though one advantage of movable shelves is the possibility of variation if desired anywhere.

(11) No doors of any kind are used in modern library bookcases, except where dust is to be excluded from delicate books, or thieves are to be excluded from rare books. Doors are an impediment to use.

Shelf-bases. To save books in sweeping, a four-inch solid base is usually provided in all kinds of shelving. In unusually high shelves, this base projects as a step, but it is unsightly thus, and just so much as it projects it narrows the aisles and promotes stumbling.

See *Fletcher, Public Libraries*.²

Fixed or Movable. As stated above, fixed shelving is somewhat cheaper and more easily made, and will serve well in very small libraries. In setting up movable shelving a row of shallow holes an inch apart is bored an inch from the front and from the rear edge of the inside uprights. To support the shelves, projecting pegs of

¹ See elaborate article by Dewey, 2 Lib. Notes, p. 100. ² pp. 49, 50.

various kinds are inserted in these holes at any desired intervals. There are several patents, the most popular one being a metallic pin with shoulder, which may be turned over for slight alteration of interval. Plain picture screw-eyes, with the eyes turned flat, are favorites in some libraries, and are cheap. Accuracy is necessary in boring the holes, and experiments are advisable as to the fit and steadiness of the pins, so that the shelves will not be liable to tip or fall.

Wood or Metal. In small libraries there is no need at all of metallic cases or shelving and it is absurdly wasteful to buy them too soon. Wooden shelving is cheaper, easier put up by local builders, and though it may occupy a trifle more space, is serviceable and strong enough until superimposed stories of shelving become necessary. Even two stories of wood can be easily managed. If you want more than two stories to use as a stack, you must have iron or steel. There are, of course, many advantages in metal when you have to come to it, though it is more costly. It saves a certain amount of space; it does not obstruct light or ventilation so much as thicker material; it is more fireproof; shelves are more easily moved.

Metal in stacks is universal in larger libraries in America, so is wood in small libraries. In England wood seems much more used in large libraries than with us.

Hard wood is not necessary for shelving, the cheaper kinds of soft wood will do, and are easier set. No backing is necessary in any form of book case, except as a brace, or for appearance, or against a brick or stone wall.

"Use no paint, but varnish and rub thoroughly."
— *Poole.*¹

¹ P. L. 1876, 487.

"Few village libraries need spend money for steel shelving. It costs twice as much as oak; four or five times as much as some woods. Wooden cases are movable, steel not; with wood you can shift and add. You would not prefer steel in your home. . . . For libraries of less than 30,000 volumes, wood is better." — *Eastman*.¹

In planning small buildings do not let manufacturers lead you into the expense of putting in metallic shelving or fixtures. Wood answers every need as well, and often better, and is much cheaper. Miss Marvin says,² "No stack should be included in a building costing under \$20,000." I should put the limit higher, and say "No metallic stack is either necessary or desirable while wooden wall shelving and floor shelving will hold the books in the library."

Ledges. In the early wooden shelving for libraries, ledges, "counter ledges," so called from their being the height of an ordinary "counter," were considered essential. Dewey³ says: "These have a double use. They give a greatly needed shelf on which readers may lay books for consultation or while reaching others, and for the pages in getting and putting back books."

These ledges do not appear so much now in floor-cases or stacks. They still survive, however, in wall-shelving.

But they served serious needs in handling books and have been seriously missed since they disappeared from use. See an article on a proposed substitute in stacks, under the title "Carrel," p. 286, later. This feature might also be used with wooden floor-cases when lighted by "true stack windows."

Labels, Pins, see articles in Library Notes.⁴

¹ 26 L. J. Conf. 42.

² 2 Library Notes, pp. 107 (cut), 117.

² p. 9.

⁴ Vol. 1, pp. 132, 134.

Head-room. It is best not to build floor-shelving, even in low rooms, quite up to the ceiling, but to leave some room over the tops of the books on the top shelf for free ventilation. But Dewey said at the 1887 Conference,¹ "Why not leave it out — use all space for shelving, with artificial ventilation?" This might apply to the head-room usually left at the top of stack rooms. But how about heat? And in most libraries there is no effective artificial ventilation or forced draft. And in many rooms outside the stack, it will not be necessary to shelve quite up to the roof.

Shelves High or Low. The rule is, as stated, $7\frac{1}{2}$ feet in height. In many old libraries, and in a few newer ones, higher cases are used, in order not to waste upper space in a high room, wherever this space is not needed for ventilation or diffused light. This is very unfortunate in inspecting or handling the books. To overcome the difficulty of seeing and getting at the highest shelves, various forms of steps or step ladders, or base steps and high handles on the uprights are in use which can be investigated and adopted when occasion requires, as it never should arise in a new building. If such shelving is inherited, or must be used, it would be best to use these shelves, too high to reach by hand, for storing sets of books or magazines rarely wanted. Or a gallery can be built half way up to avoid the awkward use of ladders.

As books to be inspected are best nearly opposite the eye of a reader standing or sitting, live books would better not be stored on lower shelves in any open-access cases. These shelves nearest the floor might be used, therefore, for similar sets not often needed.

Miss Marvin¹ advises uniform height for wall-shelving all over the building.

¹ p. 16.

Low bookcases, "dwarf bookcases," both in wall-shelving or floor cases, are often used, for different reasons, especially to serve as partitions, and have not the disadvantages of cases too high. In floor-cases, the top can be used as a convenient ledge. In this form, low cases can be set anywhere on the floor without seriously obstructing light, ventilation, or supervision, and low cases can be used against the wall when high-set windows are needed to throw light further across a room.

Unusual Shapes or Sizes of Books. Minimos, (sizes under the ordinary duodecimos) are so unusual that they can be shelved at the ordinary intervals; and if a set or lot of such small books come together, movable shelves can be closed together, without much waste of depth (or by doubling back, with no waste).

Folios and quartos occur in all libraries, in the smallest as books of reference, like dictionaries and atlases; in larger libraries they may come anywhere. Formerly, the lower shelves in all cases were made wider, with a ledge above, but this made the aisles so much wider than was necessary for shoulder room above, that ledges are not now much used in floor-shelving or stacks. Instead, special shelving is provided not far off on each floor, and slips or dummies put on the shelves to indicate where the larger volumes ought to come in the regular classification, and where they can be found when wanted.

This special shelving is often put along the walls, but in late stacks I have found it convenient at both ends of each story. The necessary ledge can be widened without much sacrifice of space, into a shelf at table height, which can be put to many purposes, part of it at one end being cut into to give room for the stack stairs, which usually rob either books or users of more room elsewhere. In other rooms, with wooden shelving, there is almost always a convenient recess or end, where

quarto and folio shelving can be put without crowding the other cases. Indeed, when designing a library building, one thing to watch for is, where such shelving can be stowed away near at hand, with the most economy of space. In floor-cases, wooden or metal, occasional large books can be laid across two adjoining shelves.

As to dimensions, Mr. Poole's recommendations in 1876¹ still hold good: a ledge about 34 inches high, with two shelves below, 18 and 16 inches high for folios, 16 inches deep, and as many shelves as the case will allow above, 12 inches high and 10½ inches deep. Burgoyne says,² 21 inches high for folios, 13 high for quartos. These are extreme. Dewey recommends 12 x 10 inches for quartos; for folios just double octavo measurement; large folios to be laid on their sides.³

If movable shelving is installed, it will be possible to shelve the exceptional books upright or flat, as their size and character requires.

Burgoyne⁴ advises padding flat folio shelves. The British Museum uses cowhide; other libraries, canton flannel (bad) with falls.

Elephant folios will require special roller shelves.

¹ P. L. 1876, p. 487.

³ 2 Lib. Notes 105.

² p. 42.

⁴ p. 50.

Shelves in Reading Rooms

"The books most used should be stored around the walls of the reading-rooms."—(*Miss Marvin.*¹) This has been a common custom, but Mr. Dana has suggested that such shelving is out of place in reading-rooms. So H. T. Hare, in 8 *The Lib. Asso. Record*.² "The placing of books around the walls wastes floor space otherwise available for readers." In this opinion I concur,³ for the double reason that it bars out just so many readers, and also it necessitates movement which interferes with serious reading. As to the former objection, take a room 30 x 40 with a perimeter of 140 feet, less say 10 feet for doors, 130 feet net: If this is shelved all around, the shelving with the usual ledge, and the three feet space in front of it needed for access, inspection and passing, four feet in all, will take up 456 square feet, out of a total area of 1200, nearly two-fifths. Without the wall shelving, the room would hold tables for that many more readers — the use for which it is intended. As to the latter consideration, to get at the books every attendant fetching or returning or cleaning them, every reader consulting them, has to pass before or beside or close back of some other reader who is trying to abstract himself at a desk. If stored somewhere else in floor shelving or in a stack close by, the books would not take up more space, would be more accessible, and less in the way.

¹ p. 12.

² p. 151.

³ 14 P. L. 134.

If a serious reading room can open directly into an open-shelf floor of a stack, no wall-shelving will be necessary.

The second objection would, of course, not apply so much to rooms for light reading where more or less motion and noise are expected, and less serious study is usual.

Class and Study Rooms. Here wall-shelving for reference books permanently or class books temporarily required, and sometimes floor shelving also, or a combination of wall-shelving with occasional projecting cases, like shallow alcoves, opposite good light, will be required. The purpose of each room defines its needs in arrangement and shelving, as also in staff-rooms and all special rooms. In libraries of sufficient size, each such room should have telephone connection with the staff, and if possible separate lifts or corridor railway service.

Wall-Shelving

The earliest book storage was in cupboards or alcoves, the latest is in floor cases, but the persistent form between and even now is that of shelving around the walls of rooms. Mr. Dana and I object to it around reading rooms, but it now prevails, and perhaps it will still prevail even there. Certainly it will always be serviceable in most of the rooms of a small or large library. It was formerly continued even in combination with floor-cases or stacks, but it is vanishing from such book rooms to maintain its position sturdily wherever floors are not for shelves, but for tables.

In this form, the old-fashioned shelf-ledge survives, with folio or quarto shelving, or sometimes cupboards or bins below, and narrower octavo shelving above. The ledge is found serviceable in temporary examination of books and for resting them in transit.

"Every available foot of wall space should be utilized for shelving, between the windows and under the windows." — *Marvin*.¹ [But not unless light comes from the other side. See below. And where there is steam heat, the space under the windows is best for radiators.

Wall-shelving ought always to be opposite and not next to windows, because direct light in the eyes blinds the reader so that he cannot distinguish the books. But if light comes from both sides of the room, both sides can have wall cases.

¹ p. 17.

Closed Cases. In private libraries and in some rare book collections in public libraries, book-cases have locked sliding doors, either glazed or with strong wire mesh (for ventilation), too small a mesh to slip books through.

It is better to back wall-shelving with wood whenever placed against brick or stone walls, to protect the books from damp and stain.

I have known buildings where the architect put a dado of expensive wood around rooms where wall-shelving was to be put up at once or was sure to come soon. This was, of course, a willful waste, as plain sheathing, to serve as a back for the shelving, would have been far better.

Floor-Cases

Floor-cases, as we use them, first appeared apparently in Leyden about A.D. 1600.¹ Their use in America can be traced to the pressure for space in the old libraries, just before the birth of the stack, which is only floor-cases built up into stories. As the term "floor-case" is used, it covers all bookcases set out from the wall across the floors, usually in parallel rows perpendicular to the windows, but sometimes radial or irregular. The cases are always double, back to back, their dimensions in each front being just those of wall-cases. The backs are usually open for light and ventilation, but are sometimes wired or wainscoted with wood. If backs are not used in floor-cases, some bracing is needed to make them rigid. The aisles between vary in width from three feet for service to six feet for open access, though service is possible in narrower spaces than three feet, and open access, with good light, does not absolutely require six. It is recommended by the authorities that cases should not exceed fifteen feet in length. Whenever longer rows are wanted, cross aisles at about that interval should interrupt, so that an attendant or reader should not have to walk too far if he needs to get quickly to the other side of a case.

¹ Fletcher, p. 10. Clark, p. 170.

Radial Cases

"In small libraries and branches, supervision is ensured by placing floor-cases as radii of a semi-circle whose centre is the desk." — *Bostwick*.¹

Duff-Brown² says that this method of shelving secures oversight and ease of working.

The advantages and disadvantages of this arrangement are well summed up by Eastman,³ who thinks it of doubtful value.

In small libraries, when set symmetrically in a true semi-circle, radial or concentric cases certainly have a pleasing effect. The building costs more, either in semi-circular or octagonal form, than in rectangular (more in stone or brick than in wood), and there is certainly waste of space in the widening of the wedge-shaped intervals, which, however, can be partially utilized by tables or short intervening floor-cases at their widest part.

This radial shelving has invariably, I believe, been built on the rear of the building. In many lots it has occurred to me that putting it in front, or on one side toward a street, could be made an agreeable feature, and would do more than any other thing could do toward attracting passers-by, and thus "advertising" the library far more effectively than many publicity schemes recently suggested.

¹ p. 279.

² p. 94.

³ 26 L. J. Conf. 42.

As to supervision, I have seen in a recent discussion the reminder that one person blocks the narrow end toward the desk, and effectively hides disorder, mutilation, or theft beyond.

Sometimes the projection from the building is rectangular, and the shelving concentric, an arrangement likely to cast shadows. In some American libraries long rows of slanting floor-cases, not true radii, point toward the desk. So good a librarian as Mr. Wellman of Springfield, has adopted this arrangement in a large rectangular room. See also the Law Library at Rochester, N. Y. But does not this arrangement block light rather than facilitate its penetration into the room to the lowest shelves? I should doubt whether the advantage in supervision would counterbalance this interference and the waste of space. Champneys¹ (an architect) thinks there may be danger of "overestimating police methods." It seems to me that in sizeable rectangular rooms, supervised entrance and exit at the desk, with rectangular arrangement of the shelves either perpendicular to the deskline or even athwart the room, thus trusting the public, would be better.

In small libraries, as in branches, this arrangement is worth considering, but should not be adopted, it seems to me, without very careful balancing of arguments *pro* and *con*. Economy in construction and space and difficulties in enlargement are against; many considerations of cheerfulness and usefulness are in its favor. Where the library is so small, however, that only three or four floor-cases will hold all its stock of books, these in a rectangular projection back of the desk, will give most of the effect of the radial form, rather cheaper.

Librarians who have operated both forms could give points to any one in doubt, and many floor plans, Eng-

¹ p. 64.

lish as well as American, with many interior views, are accessible to show different arrangements.

If adopted, it seems to me that the semi-circular plan with true radii, is better than the octagonal or rectangular walls, with obliquely placed floor cases. These may be arranged for good supervision, but their slant disturbs one's sense of symmetry. Besides, the basement beneath may be devoted to a class or lecture room, for which such a semi-circular shape gives good light and cheerful effect.

The semi-circular plan has been adopted for alcove rooms in many places, such as the Library of Parliament at Ottawa, Princeton University, and so on, but these do not have radiating cases and need not be discussed here.

Shelf Capacity

To calculate shelf capacity, it has been usual to take ten volumes to a running foot, a figure which has been verified in some libraries. But books vary in thickness in different kinds of literature, and the exigencies of growth require gaps to be left in closely-classified libraries, at the end of each subject. These facts have tended to vary estimates, which do not now agree. In "Library Rooms and Building," I said,¹ "For these reasons, it is prudent to calculate about eight volumes to a foot for octavos and under, and still less, say five volumes to the foot, for reference books, law books, medical books, and other bulky literature." I have seen no reason since to change these figures for estimates, though planners should bear in mind the different classes and sizes of books to be stored in each room or on each case.

The English authorities still set the average number of volumes to a linear shelf foot rather higher, eight and a half to nine and a half for lending libraries or fiction shelves. See also, "Stack Capacity."

¹ A. L. A. Tract No. 4, p. 16.

The Poole Plan

This seems to be the best place to allude to the scheme which Dr. Poole proposed as an alternative of the stack. As Fletcher says, the principal objection to the stack plan was as to opportunities for readers to get at the books on the shelves. To place readers and books in close contact, Dr. Poole proposed dividing a building mainly into large rooms, in each of which readers should have tables near the windows, while opposite the windows the inner portion of the room should have floor-cases filled with some special class of books. He got the chance to embody this idea in the building of the Newberry Library of Chicago. As far as I know this plan has not been adopted elsewhere as a whole, but every large library since built has included rooms arranged more or less on this plan, which is indeed the idea of the department library in a college; or special rooms, such as Art and Patents, in a public library. So far as Dr. Poole advocated his plan he furthered library efficiency and should deserve credit and remembrance.

"In the Providence Public Library, for instance, two-fifths of the books are shelved outside of the stack." — *Foster.*¹

But the stack plan has "won out" as a system, and has established itself as a factor in modern American library building. Further changes, developments and

¹ 23 L. J. Conf. 17.

improvements are doubtless coming, but so far as administration and architecture are concerned, the stack must be reckoned as the distinctive difference between libraries and other buildings.

See description and criticism of the Poole plan, with vindication of the stack system, in B. R. Green's article in the Library Journal.¹

Dr. Poole was a sturdy fighter in his day, but he was an excellent, practical librarian. If he had lived to see the stack as now improved, and had also seen its combination with the department library or special library in large buildings, I think he would have conceded the merits of the new system.

¹ Vol. 25, p. 680.

Stacks

Generally. These have been adopted in this country, in nearly all libraries which have got beyond the size where floor cases will serve. They come into use with us much earlier in the growth of a library than in England, where they seem not so much in favor.

The notion of the stack was first suggested by the modern revival in America, about 1850, of the floor-case system, exemplified two hundred years before in the Leyden University Library. The first modern mention of this system I can find is Winsor's description (1876)¹ of the arrangement of his new Roxbury branch of the Boston Public Library. In his description of the floor-cases, then only floor-cases, he suggested the idea of providing for growth another story of superincumbent cases, apparently of wood, with "dumb-waiters," and "spiral stairs." In 1877, Winsor outlined plans for a similar shelving of several stories with iron framework and iron floors.² About this time (Winsor left the Boston Public Library and went to Harvard as librarian in 1877), the first metallic stack (with wooden shelves) was developed and installed in the addition to the Harvard library building. The idea seems due to Winsor, the practical embodiment of it in full stack form to the architects Ware and Van Brunt. The latter described it soon after in the Library Journal,³ saying, "I am in part responsible for it."

¹P. L. 1876, p. 467.

²2 L. J. 31.

³4 L. J. 295.

This pregnant idea, which, as developed, has done more to change library administration and library architecture than any other device, was evidently born in the brains of a librarian as a result of his thought and experiments, and developed into practicability by good architects, as all great problems of library building should be worked out. The original stack contained all essential ideas, but great improvements in details have since then been effected by librarians, architects, and constructors.

Stacks were at first stoutly opposed by many librarians. As described by Fletcher,¹ "The stack, as usually built, consists of a series of iron bookcases [*floor cases*] running from bottom to top of a high room divided at intervals of about seven feet [7½] by light [*iron*] openwork or glass floors [*decks*]. The stack undoubtedly offers the most compact storage of books with great ease of access to every part." He then enumerates the objections to the stack, the principal of which he thinks is, "little or no provision can be made for the access of readers to the shelves, the idea of the stack being that of a place to keep the books when not in use."

Since the first stack was installed at Harvard, remarkably serviceable even then as a new idea, some of our most inventive genius has been constantly at work in trying to perfect the advantages of the system, and overcome its acknowledged defects. Construction, ventilation, heating, lighting, communications, ease of operation, have been gradually improved, and recently Dr. Poole's and Mr. Fletcher's principal objection, difficulty of use by readers, has been so greatly overcome that a later chapter has been devoted to this subject. There are several good patent stacks in the market, which deserve study and a chance to submit bids in every new building project, large or small.

¹ p. 41.

The best method of planning is for the librarian to calculate how many volumes he will have to provide for, and how large a stack he needs (floor area, and number of "decks"); to lay out, with the assistance of the architect, a floor plan for one story, with the number and width of gangways he wants, and a specification of stairways, lifts, folio-shelving, and other peculiarities.

It is better not to wait for working drawings and specifications for main building, or even for the stack shell (or building), but to ask for two bids for a stack of size described, one for the cheapest form and material each maker can supply, and another for the best form he would recommend, with his cheapest price for that. This alternative is suggested, because each make claims certain advantages over the other, which might overbalance a difference in price. The invitation to bid should reserve the right "to reject any bid for cause," and the final decision should be reserved for the building committee, under recommendation of librarian and architect. The considerations for determination can be: cost, strength, lightness, compactness, adjustability, cleanliness(including lack of projections to catch dust); convenience of stairs, lifts, floors; details of heating and lighting; and pleasing design.

After the bid has been assigned, and before the makers have begun on construction, I advise calling their expert into consultation, and asking him if he can suggest any change or improvement in any point which will increase the usefulness of the stack, without increasing its cost. There is such a keen competition between stack builders, that any of them would welcome such a conference, in the hope of getting ideas from librarian or architect which might help him improve his patent.

The stack thus bid for is to be self-supporting, deriving its solidity from its own uprights, without depending in any degree on the shell, with which the architect will only cover it and protect it from the weather.

Location. A stack may be installed inside the building; for instance, all along the rear,¹ or side or front. A small stack is often a feature of a large department room. But generally it occupies an ell or wing of the building, of light construction, projecting from the rear, or from one side.

Where the building must face a noisy street there seems to be no reason why the stack, rather than reading rooms, should not be located there. Why could it not be designed, even if "true stack windows" would make it look like an organ front, as a distinctive architectural feature?

"The stack may be as refreshing a problem for the hard-witted architect to struggle with as he is liable to meet. It may be that the reading rooms will be within, shut off from every noise, and the stack arranged along the exterior." — *Russell Sturgis*.²

The reading room is now often put just over the stack, as a top-story, separated from it by a solid floor, but connected with it by service tubes, telephones and lifts. But in colleges, is it not better to use such a location for seminar rooms, and in many libraries could it not be used as part of an exhibition and special library or special study floor?

The Stack Shell. That is to say, the addition in which the stack is housed. As has been said, it usually projects from the rear (but sometimes from the side) of the main building, as an ell or wing. It can be of lighter, simpler and plainer construction than the rest, for it needs no other strength than is necessary to support its own walls and roof. Indeed, it has not yet been the victim of architectural ostentation.¹ On the exterior, true stack windows usually run up and down the whole height, although they may be interrupted by cross sections at the level of the floors or decks, or rather just above them.

¹ See Koch, pl. 46.

² Quoted 6 P. L. 609.

From recent experiments I have made in a stack, I am led to think that here, as elsewhere, top light from windows is ten times more valuable for penetration than bottom light, hence such a cross-section of wall, about a foot wide, if it has any binding power, strengthens the wall, gives space inside for heating pipes, or looks better, would not abstract any illumination from the interior. Perhaps, however, the piers do not need such binding. That is a question for the architect, and depends largely on their construction. If they are reinforced by iron or steel T-beams, the piers need not be massive or be strengthened otherwise.

Some authorities (Champneys,¹ for instance) recommend solid floors every three decks, as guard against spread of fire, but this extra expense, not needed for support, seems to me unnecessary as protection.

The material of stacks must be iron, or better, steel, to support so much weight. The construction, indeed, is much like that of a "sky scraper," whose steel frame stands alone, without help from the walls.

Use by Readers. It does not seem either possible or desirable to plan for continuous use of any space in stacks by readers. The temperature both in summer and winter is usually not so equable as in other rooms. The main object of the stack, which is book storage, is just so much frustrated by surrender of shelf space to readers. But there is much inconvenience in excluding them entirely.

It is a hindrance to investigation to have to make inquiries, or selections, through the medium of an application at a desk. A large number of serious readers want to glance at all the books bearing on the point they are investigating, often to "taste" books by dipping into them here and there; and to make choice directly

¹ p. 66.

from the shelves, of books they want to examine more thoroughly or copy from, to be carried to a public or private reading room and used there undisturbed at leisure. They want free access to the stack for ten minutes only at a time, but they want it badly. See Fletcher.¹

' It is fortunate for those who have the use of a library if they can be admitted to the shelves and select their books by actual examination.' — *Cutter*.²

For this, several devices have been used. One is to leave the space in stacks next to windows for tables and chairs, to be used by readers. "Or alcoves on one side, as in Iowa College." — (*Marvin*).³ A variation of this takes the form of "cubicles," little glassed-in rooms next the windows, as in the new Harvard Law School stack, or as proposed for the Harvard University Library. But before using this form generally, it would be better to calculate, first, how much space this will abstract from the storage capacity of the stack; second, how much it affects the penetration of daylight into the stack; third, how often any one reader will want to use any one section of the library so long as to make this arrangement worth while; fifth, the expense of construction and provision of equivalent stack room elsewhere; and sixth, the problems of heating and ventilation, for readers who require reading-room conditions.

Another favorite device is to shorten the outer ends of ranges of shelves, say by one three-foot section, in every other case on every floor, where a tiny desk can be set into the range, with a chair or stool underneath for the use of a reader. This furnishes room for reading but *pro tanto* less space for books.

¹ p. 76.

² P. L. 1876, p. 526.

³ p. 99.

Open Access Stacks. Can wider aisles be left in stacks so that readers may stand well back or stoop to inspect books, and pass each other easily? Yes, stack cases five feet "on centres" will allow fairly free movement, as this means 3-feet-6-inch or even 3-feet-8-inch aisles. But no such width could well be allowed as is called for with open-access floor cases, *i.e.*, six feet clear between. The present methods of stack construction would not apparently lend themselves well to wide spaces on the ground floor and narrow spaces above, because the uprights would not directly support each other. A building might have, indeed, two or more different stacks, one open access for readers, the other close storage for books, but this seems rather wasteful. Is there no way to provide, in a stack which will give the maximum storage, some facility for such inspection and handling as is needed both for staff and readers?

A Suggestion. In reading "Clark's Use of Books," I came across an old expedient of mediæval days which will give a good name for the device I had already thought of. (See next section.) His quotation¹ is as follows:—

"In the north Syde, the Cloister was all fynely glazed. And in every wyndowe iii Pewes or Carrels, where every one of the old Monks had his carrell, severall by himselfe, and there studied upon there books. From one stanchell of a window to another, and in every one was a deske to lye their booke on." "These were devices to provide a certain amount of privacy for literary work."²

Carrels. While thinking of this conflict between the desired use by readers and the close storage which is the proper use of a stack, I tried to find some wasted space

¹ Clark. p. 90.

² Clark, p. 99, (with cut).

which might serve the one use without infringing upon the other. While searching I noticed that window ledges were thus wasted. Look through Koch's floor plans,¹ or any others, and you will notice that window frames, usually set midway between the outer and inner surfaces of the wall, were sometimes set flush with the inner surface, thus leaving outside a window "stool" nearly the full width of the wall. But why leave it outside where it would be only useful for pigeon-roosts or flower-boxes, neither strictly necessary? Why not set the window-frame flush with the outer wall and so leave the whole ledge inside, both sill and stool? In the Salem Public Library stack, as the architect saw no structural reason against it, this has been tried. In each stack window on every floor a thin shelf has been run across, table high. The setting back allows this shelf to be twelve inches deep and three feet long without projecting into the aisle, and without materially interfering with light. Set a stool near and here is provision, close to the books, and without cutting into the stack, for just as many choosers of books as there are windows on each floor. When no readers need them, here is a ledge for attendants to use in assembling or dispersing books.

This device does not suit permanent reading, for which the stack is not intended,—but why does it not perfectly meet the needs of casual inspection and choice?

It has been gradually tried out. In the John Hay Memorial Library at Brown, rather narrow window-shelves were tried; then wider sloping desks at the Episcopal Theological School; and recently, the wider Salem carrels, where the windows are set quite flush with the exterior of the piers.

¹ See pl. 14, front windows.

There is still an opportunity for experiment and development. Is such a shelf better, fixed or hinged? What would be the simplest form of hinging and fastening? Is it better, in view of its temporary and intermittent use, to have it at desk height, for a standee? How thin can it be, and of what wood, cheapest and least liable to splitting? Might not metal shelves, furnished with the stack, be better, and about as cheap?

As finally improved with these carrels we could bring the whole stack back to the narrowest intervals consistent with moving books, and thus avoid resort to underground stacks and sliding cases, until much later.

[Webster's International Dictionary gives only the spelling "carol," but the old records call it "carrell."]

At Durham, the carrels were 2 feet 9 inches wide. At Gloucester there were twenty carrels, each 4 feet wide, 6 feet 9 inches high, and 19 inches deep.¹

The modern Salem Public Library carrel is wider than the one at Durham, and about as high and deep as those at Gloucester Cathedral.

Stack Details. *Dark Interiors* are discussed elsewhere; having the library built around a stack, to be lighted by electricity, open to daylight only by way of the roof, and opening to outer corridors or rooms on each floor. This is mainly an architectural problem, though its administrative aspects would have to be considered by the librarian.

Height. The height of each stack floor is generally set at seven feet to seven and a half. I favor seven and a half, of the two, so that a tall man need not stoop under the deck beams and electric bulbs. In order to get the ground floor of building and stack coterminous, the lower story of the stack must correspond with that of the building, which is not usually higher than ten feet.

¹ Clarke, pp. 96, 98.

As it is most convenient to have the basement floors of stack and building also coterminous, the unusual height, for this case only, may be accepted, and the inconveniently high shelves used for some kind of slow or dead books.

It is usual to leave several feet above the top shelves, just under the roof, for ventilation.

“Broken” floors are used in some libraries, the Massachusetts State Library, for instance; one stack floor being three and one-half feet higher and the next one three and one-half feet lower than the corresponding building floor, on the idea that it is easier to go up or down half a flight than a whole flight, for anyone wanting to get books. But isn't the average the same? In this form, the very great convenience of moving books by trucks is sacrificed, so that the almost universal custom is to have the ground floor, and every second floor above, level in the stack with floors in the building, thus fixing the height of the latter at fourteen or fifteen feet, except the top floor, which is free, and the basement, usually determined by other exigencies.

The material used for “decks” may be openwork iron, marble, or more usually translucent ground glass.

The floor of the stack as well as of the building basement, is generally cemented, with special provisions for excluding dampness.

Passages. Those running lengthwise may be called gangways, those across between cases, aisles. The number of gangways varies with the size and use of the stack. Although it might be built without a center gangway, and have one on each side, or only on one side — it would then be a very narrow stack — the usual construction is to have a gangway about four feet wide down the center, and one of less width (just enough to allow passing around, say two feet,) at each outer end.

But if it is desired to have very close packing, these side gangways may not be necessary. In building the new Salem stack, Mr. Jones decided that he could so run the classification of the books from the center around back to the center, in every aisle, that there would be little need of passing around the outer ends, and he could omit them and so gain that much more for books.

The center gangway may be any width desired, but should of course be wide enough to serve as thoroughfare for men, book-trucks, and boxes. Although four feet seems the average width, it varies from three feet to six feet in existing libraries. Good, large windows on each floor should light gangways at the far end.

The length of aisles varies with the width of the stack building, though limited by the belief that no bookcase should be more than 15 or 18 feet long, which requires other gangways at that interval. The width of the aisles has varied. The original Harvard width, 2 feet 4 inches, appears to be the very narrowest which will allow passage of two persons, or stooping to the lower shelves; 2 feet 8 inches is very common; 3 feet is so roomy that the stack becomes convenient for limited open-access; while 5 feet "on centers" (3' 6" or 8" aisle) is the maximum in stacks at present.

Many stacks have wide intervals at the sides of the "deck" in each aisle — so wide as to have to be wired to prevent books falling through — "for ventilation, diffusion of light, and communication," but such wide spaces are not needed for light or ventilation, and are much handier for dropping pencils than for passing books, so that I prefer wider decks with small rims for protection, and much narrower spaces along the cases.

Stairs. Stack stairs need not be wide, for they are so short that two people never need to pass. Two feet wide is enough. When first adopted, circular stairs

were used, as supposed to occupy less space, but they were found to be inconvenient and dangerous, and since measurement has shown that straight stairs need occupy no more space, the "cork screws" have been entirely superseded. Eight-inch risers and 9-inch treads are recommended by Champneys,¹ who thinks, by the way, 2 feet 4 inches the right width, iron with rubber treads being the material.

Stairs should be put in wherever they will be most convenient, and where they interfere least with book storage and passing. One flight certainly should be next the entrance on each floor, and one flight generally at the other end. If they be set sideways in the folio shelving there, which is not always all needed, they seem to interfere least. (See paragraph on circular or winding stairs.)

Lifts. Light lifts for single books, or few books at a time, are needed for all stacks (See that title, on page 228.) In large libraries and high stacks, elevators large and strong enough to carry trucks and boxes, are also necessary. For lifts, hand operation will serve, or electricity; for freight elevators, some sort of power is better.

Every such carrier should run from basement to top, with opening on every floor. A speaking tube should run beside it, with mouthpiece also on each floor.

Ledges. (See under Shelving, p. 265.) As a ledge on both sides of each case would greatly narrow the aisles for passage and diminish the capacity for storage, these have disappeared from the modern stack. Their place has been taken in some stacks by sliding shelves (to be drawn out when wanted), which do not appear to be entirely satisfactory. But the need for some substitute,

¹ p. 66.

for the use of which Dewey speaks, has suggested ledges for folio shelving on each floor and for the new device of carrels, which may at least partially replace ledges without diminishing storage capacity or easy passage.

Shelves. The shelving of stacks follows the rules already described under the title "Shelving," except as dimensions are varied by the use of steel, which is less bulky. Movable shelves also allow more variety in intervals to suit the average size of books in any part of the stack. It is usual to maintain the 10-inch height for intervals between shelves, all over the stack, except as thus modified here and there to suit exigencies and except for folio shelving at the ends (or sides) of each floor.

Different patents offer much choice in stack shelving. Avoid especially projections, likely to catch dust or tear clothing or injure books. Test very carefully all forms of "clutch" or detachable shelves.

Stack Lighting. *Natural.* North light is the best, but the choice is not often open. The location of the stack is determined usually by other considerations than aspect. Unless it runs along the rear or side of the main building; if it projects, that is, it will naturally have two sides lighted, one of which in any location would have to be south or west, and thus sunny. If wired glass is used as a protection against fire it will be more or less opaque and thus will temper glare. Shades can, of course, be used on the worst exposure, and some contrivance can be used, like that at the Library of Congress, to work all these curtains at once to save time.

Overhead light will penetrate one glass floor of a stack fairly well, not more.¹

¹ See B. R. Green, 25 L. J. 680.

"If daylight is on the whole better and more wholesome, as it is certainly cheaper than electric light, then a well windowed stack room is better than a dark one."

— *Russell Sturgis.*¹

Light penetrates stack aisles effectively only about twenty feet, hence a stack lighted on both sides may be forty feet wide, plus width of centre aisle.

Artificial. The best light is, of course, electricity, and here the expert of the stack to be installed can give valuable advice. The question of the location of the bulbs, their power, their direction (transverse or perpendicular), their frequency, their wiring, their switches, such questions must be determined. As a great deal might depend on the particular structure of the stack, one bid for the stack, another for the lighting, with specifications from each bidder, might be invited.

Hand bulbs at the end of cords have not been found satisfactory. Various devices have been used, but good systems of fixed lights (bulbs with reflectors and shades), worked well by means of switches, have been perfected.

Reflective Colors. To help diffusion and local effectiveness of both natural and artificial light, inner walls and the whole stack would well be painted some agreeable light tint of enamelled paint. This is a question of taste for the architect, with approval by librarian and committee.

¹ Brochure Series, Nov. 1897, p. 169.

Stack Windows

As stack windows must be high and narrow, they introduce a new and imperative architectural feature on the exterior of the stack fronts. The usual form is a continuous window from foundation to eaves. This may, however, be broken for a foot up from every floor, by a cross band of iron or stone, for effect or for any interior convenience, like continuous hanging of steam pipes, without real diminution of daylight inside, provided that the windows run quite to the ceiling in each deck, to give full top light. If the windows are glazed with wire glass, they will afford some protection from outside fire, and being opaque, would temper the glare of sunlight. Factory ribbed glass is also used, as both tempering and intensifying daylight.

True Windows. To give full effect the piers between windows should be only as thick as the depth of the double book cases, sixteen inches, and directly opposite them. They have only to support themselves and the roof, as the stack floors are independent and self-supporting. Re-enforcement with a steel T-beam will render them stiff enough with sixteen inch width, and even allow flaring from the windows to admit more light.

With this construction, each window can have the full width of the aisle it fronts and be so framed and glazed as not to intercept any light, thus throwing illumination as far as possible down the aisle, with oblique rays from the side of the window to the other side of the aisle, reaching both rows of books to the far end.

This I call a true stack window. In looking over modern plans, you will see that many libraries have them as to position, though the entire available width is not always used.

If you have Clark's "Care of Books," see how true the alcove windows were in the Queen's College, Cambridge, library as long ago as A. D. 1472.

Defective Windows. In other stacks, you will find windows too short (even if there is a cross band, it should not be more at the most than eighteen inches in height, leaving a window on each deck, six feet full down from the deck above), but oftener windows narrower than the aisle, giving too little light to reach the inner ends of the cases. There is no excuse for these. As has been said above, there is no structural need to build the piers between windows wider than the book cases inside, and just so much as they encroach upon the windows they commit the unpardonable sin of darkening the stack.

Many modern plans show this defect.

False Windows. By these I mean windows which outside take the gridiron stack form, but do not come truly and fully opposite every aisle inside.

"The rear elevation of the New York Public Library plainly shows that the architects wilfully omitted to place a window at the end of each aisle. All the beauty of the elevation will not make good the want of light in the lower floors of the stack." — *Oscar Bluemner.*¹

The falsity of this arrangement, which is found in many modern libraries, lies in using an exterior scheme which does not meet inside conditions. The excuse is that sufficient diffused light is provided for the whole stack. But if this is true (which I cannot concede), any other equal window area could be used in any other form,

¹ 3 P. L. 76.

which would not give outer promise of inward excellence. They are only a sham, and can therefore be called false stack windows.

Heating. The best form developed for stacks is by hot water or steam pipes along the walls just above the floor of each story clear of the books, with coils in the windows. Overhead pipes are very bad, as they concentrate heat at the top of each story, where it is most oppressive to those walking or working below.

Ventilation. There should be an air space above the top shelves in a stack. Good ventilation can be provided there by end windows and through the side windows. Some writers have advised sealed windows so as to be dust proof. In that case some system of forced draft would have to be installed.

The ventilation of a stack, where use by staff and public is only intermittent, is perhaps not so important as that of reading rooms constantly crowded, but the open construction and height of the stack differentiate the problem rather than avoid it.

Underground. In England, Burgoynes¹ four stories is the rule. But in America, every library builds its stack, in all dimensions, according to its wants and space. Four-story stacks are common, but by no means the limit.

The impending exigencies of storage have not only brought suggestions of dark stacks in the interior of a building, but they have already carried stacks under ground. Even the Bodleian Library in England has installed a two-story subterranean stack, mechanically lighted and ventilated, under its front lawn. Plans are on foot for stacks many floors below ground-level, to be lighted and aired by electricity. See p. 222.

¹ p. 43.

Upward. Ten "decks" is the maximum height now, but why is it not possible to build further up into the air before we burrow under ground? Are there any structural difficulties? Would it cost more to have a "sky-scraper" stack than a dungeon?

It is a question how underground cases will affect the books. It is claimed that forced draft will avert the evils of dampness, but Dr. Thwaites reports that he has found trouble from mould deposited on the backs of books as the warmer air from the surface above comes into contact with the cooler walls of the cellar. Would not books packed in sliding cases, away from the moving air, be more apt to develop inside rot and insects?

It does not appear to me that cellars for book storage have got beyond experimental stage. Some years of test seem needed to prove their perfect availability.

Stack Towers. B. R. Green says¹ "the stack might be in the center, and rise from the roof as a tower. It would be a simple thing to make a stack of twenty or more stories." Why not? and why not so rise from an ell, as well as from the center? Why not build it as a skyscraper, any number of stories upward, supporting itself, with a shell plastered on the exterior? The structural objections would seem no greater in a stack than an office building. The operating objections are surely no weightier going up than going down. The daylight would be better, the dampness less. It might be easier to flood cellars than towers, in case of fire, but the certainty of water is even a worse foe to books than the possibilities of fire.

Why is not here a chance to develop a new type of architectural beauty? If towers are fine features in churches and abbeys, why not in libraries? Before digging catacombs for our books, why not set our in-

¹ 25 L. J. 680.

ventive faculties on hanging gardens of literature reached by elevators like the levels of the Eiffel Tower?

Capacity. Various ways of calculating capacity have been suggested, but most of them disregard the fact that stacks vary in measurement, and only two whose interior dimensions are exactly alike can be safely compared.

Capacity of an average stack can be roughly calculated at twenty volumes to a square foot on each deck. Thus a 30 x 40 stack, three stories high, will hold about 72,000 vols.

I prefer to calculate the capacity of every new stack independently, when planning it.

Taking folio shelving separately and adding its figures in later, I take one floor by itself. It has so many double cases, such and such length, on each side of the central gangway. One case 15 or 18 feet long, multiplied by 2 for the two sides, and 7 or 8 for such shelves as the librarian thinks he can use, then multiplied by 8 volumes to each foot, will give the "practical capacity" in volumes for octavos and duodecimos. Multiply by the number of cases on both sides, plus your calculation for folios, and you have the capacity of that deck. Multiply again by number of decks, and you have the practical capacity of the stack.

If you wish to get the "full capacity," as it is reported in many plans, make your volume-multiplier ten instead of eight, or add twenty-five per cent to your first calculation, which amounts to the same thing. But eight to the foot is practically full capacity for closely classified libraries, where frequent gaps must be left for growth, at the end of each subject.

Sliding Cases

We can wisely borrow from England the "sliding presses" which Dr. Richard Garnett brought to the attention of the Library Association of the United Kingdom at its annual meeting of 1891; having previously described them in Dewey's Library Notes and elsewhere in 1887.

Adapted from the Bethnal Green library in 1886, they were put on trial in the British Museum in 1887, and have since been in operation, regarded apparently as an invention quite as valuable as the stack appears to us. "I think enough has been said," to quote Dr. Garnett's words, "to convince librarians of the expediency of taking the sliding-press, or some analogous contrivance, into account in plans for the enlargement of old libraries, or the construction of new ones."

The British Museum press is described as "an additional bookcase hung in the air from beams or rods projecting in front of the bookcase it is desired to enlarge, working by rollers running on metal ribs, and so suspended as not to touch the ground anywhere." In other words, it is a movable bookcase parallel to a fixed case, and sliding to and from it by wheels above. It may be distinctively called a hanging case or press. It is better suited to the arrangement of aisles and construction of floors in the British Museum than to most American libraries, and so far as I know has not been copied here.

[See illustration in Library Notes,¹ and also in Burgoyné.²]

¹ Vol. 2, pp. 97, 99.

² p. 66.

Another double press used at the Museum is called by Dr. Garnett the pivot press. It is apparently a second case, kept front to front close to the fixed case and swung out from it when wanted, by a door-motion hinged on a perpendicular pivot; overhung, I gather, at the Museum, but elsewhere running by wheels on metal semicircular tracks laid on or in the floor. Such were early experiments in Trinity College, Dublin, twenty-five years ago. These might be called folding bookcases. They have not yet been copied in America.

A third kind of movable bookcase, which may more properly be called the sliding case, is used in the Patent Office Library, London. This apparently also swings from the top. Duff-Brown¹ describes it: "These presses are swung closely side by side, and drawn out, one at a time, as required." He does not say drawn out endwise, however.

This idea is developed in *The Librarian*² by James Lymburn, who suggests "a storeroom of any length, 22 feet wide by 35 feet high, in three stories, lighted from the roof through iron grating floors; with center passages of 9 feet, and sliding cases 6 feet long, closely packed in on each side." He calculates that such a room 40 feet long would hold 100,000 volumes; its advantages being close storage and shelter from dust and sunlight.

See for illustration, Champneys.³

Jenner, in the *Library Chronicle*,⁴ claims for the sliding case these merits: Cheapness, as compared with enlarging the building; possibility of gradual installation as needed; nearness to other shelves in a classification; absence of obstacle to light(?) or motion.

I have also received from a dealer in Oxford, England, a small pamphlet hinting at rather than describing, a

¹ p. 121.

² Vol. 4, p. 241.

³ pp. 39, 67, 68.

⁴ Vol. 4, p. 88.

room laid out after Lymburn's idea. The pamphlet calculates it will save about half the space taken by stack storage. These cases, and Mr. Lymburn's, are evidently double.

See also H. Woodbine in *The Library Association Record*.¹

Per contra, H. M. Mayhew says in *The Library*,² "The drawback of the ordinary sliding or hanging or extension case is the difficulty of moving so great a weight whenever one book is wanted."

I cannot figure out much from these English descriptions about problems of mechanism, repairs, lighting, or cleaning.

In America, the general idea of sliding cases has been discussed since Dr. Garnett's description of the British Museum device in *Library Notes*, and since Mr. Gladstone called attention to it in the *Nineteenth Century* of March, 1890.

Mr. Gladstone describes what he calls these "book cemeteries" thus, as he has seen the "tentative and initial processes":—

"The masses represented by filled bookcases are set one in front of the other, and in order that access may be had as required, they are set on trams inserted in the floor (which must be a strong one), and wheeled off and on as occasion requires."

The masses which he thinks ought first "be selected for interment" are *Hansard's Debates*, the *Gentleman's Magazine*, and the *Annual Register*.

So far as I know only two trials of this idea have been made here; several years ago by Dr. Little at Bowdoin College, more recently by Mr. Lane at Harvard University. Both of these are wooden single cases, side by side, pulled out by the end, and locked or lockable. Both slide, not hang.

¹ Vol. 12, p. 453.

² Vol. 7, p. 10.

Mr. Lane has now a line of twenty-three in a row, sliding on ball-bearing wheels at the bottom, which in turn run on rails countersunk in the floor. At the top, the cases are held erect and guided, but not supported, by small wheels along the sides of a T-rail. He uses his cases entirely for rare books in an exhibition room on the ground floor, and finds them very satisfactory for the purpose, although he utters a warning that provision should be made for free access to all the mechanism, which occasionally needs repair.

Dr Little submitted a paper describing his cases to the A. L. Institute at its New York meeting in 1911. By reference to a photographic view accompanying I see that he has a double-decker,—two stories of five single wooden cases each; each case "about six feet high and three feet long." "These cases can be made of either wood or metal, for either octavos or quartos, supplied with either fixed or movable shelves." [At Harvard the middle shelf is fixed as a brace, the others are movable.] "They must be mounted *at the center of the base* on small ball-bearing trucks which run on metal rails sunk in the floor. Their tops are at the same time guided and kept securely in place by a slot and a T-iron, the friction against which is reduced to a minimum by rollers, placed horizontally. If properly constructed and placed upon level rails, a slight pull with one hand will bring one forth. The increased storage is estimated at 100 per cent. . . . We also have the Patent Office Gazette on six wooden sliding cases like these, on either side of the door of the room in which they are stored. . . . This method of storage is especially economical in case a depository library desires to keep its sheep-bound set of Congressional Documents as a unit, arranged by their serial number. . . . The cost of these cases and their installation varies greatly with

the material, finish and location. My first cost less than \$15 each, my last about twice that amount."

I suppose Dr. Little means this for the cost of each separate bookcase, fully equipped and mounted. Mr. Lane's figures I have not been able to put my hands on.

So far for the statement of facts. I must confess to having approached the subject with some prejudice against the mechanism of these cases, founded on an experience of sliding doors in dwelling houses, which slide or not, as they feel like it, and whose machinery is most difficult to get at and repair. But machinery can be got under control by mechanics. I yield my prejudices in view of the evident advantages of this system, and am prepared to make definite suggestions as to its use in future repairs or building in this country.

In alterations of those architectural extravagances which have wasted so much perpendicular capacity in high rooms and corridors, I see a way to use the style of cases experimented on by Dr. Little and Mr. Lane, rather than any of the English styles. Either as a single story along a wall anywhere, or in the double story style, swung out anywhere on the vacant floor of any room or any unnecessarily wide corridor, there will be relief in the storage of any books not required for open access or frequent reference;—as Dr. Little says, "for compact storage of less used books."

In planning new buildings I hardly think it would be necessary to set up such cases at first, except perhaps in the case of rare books as at Harvard, where locked cases and protection from sunlight were wanted, with infrequent access; or in equipping rooms for rapidly growing sets, such as Congressional or State Documents, Patent Office Reports, sets of periodicals or publications of societies, or any similar sets whose titles and volume numbers can be labelled on the ends of the cases; or for

"dead" books. The Oxford pamphlet sketches a room somewhat after the "Poole plan," equipped with tables and chairs toward the windows and a row of sliding cases along the blind wall opposite the window light. This seems to me good for many departments.

But except in rooms evidently adapted to such treatment, I would not install sliding shelves anywhere, but would most certainly leave space, in a perfectly dry basement if nowhere else, for possible future installation whenever need may arise.

One reason for this postponement is this: that several details must be studied, experimented on, and perfected before fully equipped rooms of this kind can be considered as tried out and permanently satisfactory. Lymburn's scheme seems good, but the plans presented by Champneys and the dealers do not work out well on examination as regards space, light or handling. I suggest as problems to be investigated, —

Smooth and sure working of the mechanism.

Easy access to top and rear for repairs.

Access for cleaning and ventilation.

Incidence of weight (this is not even on floors as in a stack; but is moving, as on bridges).

Lighting (most important) on each face of each case.

Floors sure to remain true.

Width of center aisles for all emergencies.

See Bookworms, p. 222.

PART III

READERS' ROOMS

Reading Generally

F. B. Perkins¹ divides reading into three classes: Entertainment, Acquisition of knowledge, Authorship. This epitomizes our American division of reading rooms.

What I shall call the light-reading room will provide for all who drop in at a library to pass a quiet, restful, recreative half hour, a very large proportion of readers. They are attracted by the lighter magazines, the illustrated weeklies and monthlies, and books into which they can dip pleasantly for a few moments. This is generally known as the periodical room.

The serious reading room, usually called *the* reading room, is intended for such readers as get books from the shelves to study or read earnestly and long, or are preparing themes, papers, newspaper articles — even (when there is slender provision of separate study rooms) where they are writing books.

I would add a fourth use of a library — perhaps the commonest — as it helps all other classes, that is, what we call reference use. (In England where the reference library and its reading room seem to cover all reading of books in the library as distinguished from magazines and newspapers, this is called quick or ready reference.) A separate reference room or separate corner of the reading room near the door holds all the books to which visitors look for scraps of information, but never read consecutively.

¹ P. L., 1876, 238.

Serious Reading Room

By this phrase I mean the room for serious readers who want quiet, but do not need separate rooms. The English seem to call this the reference room, a name I apply only to their "quick" or "ready reference" room. Their "reading room" I call in this work periodical room, in which books for light or "half hour" reading in the library may be shelved.

This main or general reading room is usually on the ground floor in smaller libraries, but may be relegated to the second or the top, or indeed to any other convenient floor, accessible by elevators and in good communication with the stack.

In libraries where there is space for it on the ground floor, it can be supervised and served from the central delivery desk, but when elsewhere, it must have a separate desk and service.

In the largest libraries it often occupies a central position and a circular form. With a lofty open dome above, it is an impressive feature, but wastes space which might be utilized otherwise, and it is said to be more or less drafty and hard to heat evenly.

Position at the top as at the New York Public Library, has great advantage in light without waste of space, or superfluous loftiness. If over the stack (though the supporting walls have then to be stronger than usual) it has the advantage of short and straight lines to the books, and is said to lend itself to enlargement for readers and books *pari passu*. Good elevator

service is a requisite in this form. "I incline more and more to the reading room on top of the building, especially in a large city." — (*Dewey*.¹) So Andrews, at the same Conference. He also said, "I believe in the single reading room [as compared with the Newberry or Poole's plan] in a public library as a saving in trained assistants, and because it is impossible to classify readers in rooms as you do books."

"Plain outlines are best. Recesses, alcoves, bay windows and nooks are difficult of supervision and spoil the public character of a library." — *O. Bluemner*.²

The main requisites of a reading room are quiet, privacy, light, good air and space.

Quiet. This means not only regulations against conversation, but various physical conditions. For instance, absence of stir or motion; exclusion of such magazines as are merely looked over with fluttering of leaves; exclusion from the shelves (if there must be shelves around the walls) of books frequently wanted by readers and attendants; (reference books, class books, new books and others inviting frequent examination, should be put on the side or in a corner near the entrance, concentrating stir there;) noiseless floors; echoless walls and ceilings; exclusion of outside noises; no stairs directly into or out of the room; no passage through to other rooms.

Privacy. This requirement can be met by the proper provision and arrangement of the furniture, which will be further treated under the head of Tables. The former method was to use almost exclusively large open tables, seating ten or more, or tables with lengthwise and crosswise partitions, setting aside bins or stalls like voting booths to shut out distracting sights. The large plain tables are not now in favor, the tendency be-

¹ 30 L. J. Conf. 249.

² 3 P. L. 284.

ing toward tables for six, four, two, or even one. See floor plans and interiors of libraries in Koch and elsewhere.

Light. Light falling from the left, shaded from the eyes, focussed on the table in front of the reader on the book he is reading there, or the paper on which he is writing, is desirable. If the room is lofty, windows high in the walls, carefully shaded from glare, are out of range of reader's eyes. If lower, as most rooms are, the table seats should be so disposed if possible as to give each reader light from the left.

The question of artificial light is discussed elsewhere. The best of high lamps for diffused light, of side lights and of hanging lamps to light readers, is a special study for the architect. As readers have varied eyesight, individual table lights, adjustable and severally operated are best on the whole, but the wiring of each table fixes its location so that it cannot be moved in cleaning or re-spacing. Bulbs hanging about eight feet from the floor are much used.

Good Air. This is as important as it often is unsatisfactory. Bad air interferes more than anything else with clearness and concentration of thought. Mr. Ranck of Grand Rapids is now chairman of an A. L. A. Committee on this subject. He writes me: "Personally, the more I have looked into it, the more I am convinced that the physiological side is most difficult, not the mere keeping down the amount of carbon dioxide. I am inclined to think it will be necessary to make a number of experimental tests to determine these points." The report of this committee will be interesting.

Meanwhile, the best thing to do is to get a report from recent buildings as to their methods, and the success of each. Evidently the problem varies with the size and

situation of the room and the method of heating, including heat from artificial light.

If perfect ventilation could be installed, crowded tables would not be quite so bad.

Space. H. T. Hare, an architect, in a recent number of the *Library Association Record*,¹ writes: "Almost all our public libraries are too closely packed for comfort, health and movement. A fifty per cent increase in floor space would not be at all extravagant."

If there is money to spare, this might be desirable, but unfortunately few libraries, large or small, have funds enough to allow luxuries. The spacing of seats must be as close as health and convenience will permit. It is generally agreed that for serious reading, which may require room to spread books open and to lay manuscripts beside them, 25 square feet are ample, 20 square feet sufficient, 16 square feet rather a crowded minimum, to include chair, table and passageways.

As to size, Duff-Brown² suggests finding the *daily average* of readers and plan for one quarter of this daily attendance at any one time during the day, as sufficient space to allow.

¹ Vol. 8, p. 149.

² p. 83.

Reference Room

As already said this is a very useful room, or section of a room; indeed it might even be put in an anteroom or vestibule, to include such books as will be used for quick consultation, but never for reading. It should be for the openest and speediest access. As Spofford specifies,¹ "It would include encyclopædias, dictionaries, glossaries, etc.,," or according to Fletcher,² "general and special encyclopædias (such as music, fine arts, mechanics, geography, classical, Biblical, biographical, etc.)" Dr. E. C. Richardson³ lays down that "at least a small selection of the best reference books should be accessible to the public."

"Place as little hindrance as may be to the busy man who runs in to glance at the dictionary, directory, or time-table." —*Bostwick*.⁴

This room need not be as large as either of the other reading rooms, but it should be most accessible, near the front door, near the desk, near the catalog. It should have wall shelving for large and small books, drawn under specifications by the librarian, for just what volumes he wants to display there. Revolving bookcases are convenient here. This is especially the place for the old-fashioned ledge, and for a few narrow tables like those used in front of a catalog case, with small, light chairs or stools; just as little furniture as

¹ P. L. 1876, 688. ² p. 75. ³ 18 L. J. 254. ⁴ p. 66.

would be needed for taking down a volume at a time to glance at, or to take brief notes from. How many it should accommodate at once depends on the library and its use. It will be wanted, in brief visits, by very many of the visitors, down even to the children of the higher grades of the schools.

Although one of the most important departments of large or small libraries, it is not the place for high walls or architectural ornament. It should have especially good light at all points day and evening, for the type of many reference books is so small as to try the eyesight at its best.

If there is not space in the building for a separate room, put it, if possible, in the same room with open-access shelves, or the magazines, or in a corridor, where there is already some confusion; for the use of reference books is a distraction to serious reading anywhere near. If they must be put in the reading room, give the reference books a stretch of shelving or a corner near the entrance and desk, so that their consultation will leave serious readers afar off and undisturbed.

Might not a good arrangement of a reference room be on the window side of the delivery or open-access room, with broad alcoves opposite the light, and with a good ledge under the windows; or just with floor cases perpendicular to the windows, spaced wide like open-access shelves, but having old-fashioned ledges to help consultation of reference books? Here is opportunity for ingenious planning.

Standard Library. Mr. Foster's plan of a Standard Library room at Providence has something to commend it from an educational or didactic point of view, but it would hardly be much missed by the public. In new

buildings where all available space is in demand for more imperative needs, I doubt if I should include such a room, unless already adopted as part of the policy of the library. If it is, however, to be included it should have an architectural dignity — not necessarily splendid — to conform to its purpose. Why might not this be combined with the trustees' room? The bindings of the books would adorn the walls, and make the room a worthy meeting place of the board at evening, without interfering with what I imagine is not an eager or crowded use by the public during the day.

Or, if its object be not quiet reading, but to bring the books prominently to notice, to exhibit them, why not treat it as an open access or club room, open to conversation? Would not this further its primary object, attract visitors, and promote taking these volumes home or into quiet reading rooms to read?

Light-Reading Rooms

Half-hour reading.¹ This is generally called Magazine or Periodical room in our libraries, but I should include in it some provision for casual reading of books also. In 1903 I suggested at an Atlantic City Conference, shelving in such rooms for a class of books every library owns, but usually scatters under various classifications, although their common purpose is for episodical or temporary entertainment, such as is known as "half-hour reading." On this shelving I advocated placing a good selection of the best short stories, readable essays, anthologies, brief poems, humor, and so on, to be read in the room, just as magazines are used, for such pastime as the reader's time will afford.

"Three-quarters of the readers are destitute of literary culture, but need recreation and pastime." — *Winsor.*²

My suggestion then evoked interest, but I do not know that it has been acted on anywhere. I renew it here as a use for wall shelving in periodical rooms for new buildings, and in concentrating there all recreative reading. In this light-reading room a certain amount of movement and noise must be expected, which will not much annoy the readers there. The coming and going of visitors whose stay must be brief, the handling of magazines or books, the turning of pages, the rustling of newspapers, perhaps the murmurs of children over illustrations, are to be expected. Here such wall shelving as has been suggested would not be out of place.

¹See Symposium, L. J. 1894 Conf. 42.

² P. L. 1876, 431

See H. P. James, L. J. 1896 Conf. 49.

Periodicals. Here are kept such few local and metropolitan newspapers as are taken by the average library. Magazines and weeklies either lie freely on large flat tables or are kept for open access in wooden pigeon-holes or pockets against the walls without intervention of any attendant, or are kept behind a counter to be issued by a special attendant on call. Where there are many readers and a large number of serials, experience has shown that it is better to keep them in pigeon-holes behind a counter, to be delivered by an attendant.

"Where not a large number of periodicals is taken, they are usually placed on tables without a special attendant." — *Poole*.¹

The furniture of the room and its arrangement will depend on which system is to be used in the library. This should be settled in advance.

The chairs used here should be strong, but light; rubber-tipped so as to be noiseless when moved. Except in looking at illustrated papers, readers may prefer to hold octavo magazines, or books, in their hands, turning their chairs back or side to the light, in the easiest posture. Arm chairs for such use would be appropriate.

It is not supposed to be necessary to allow so much floor space for each reader in such rooms. Duff-Brown² considers 12 square feet enough in England, but our usage in America is 16 square feet, which is better for elbow room, passage and ventilation.

"In rooms for magazine reading, there should be more room for chairs than tables." — *Champneys*.³ This seems good advice, unless the periodicals are to be laid loose on the tables.

¹ P. L. 1876, p. 484.

² p. 409.

³ p. 45.

It is often the custom to put reviews and other serious magazines in the reading room, leaving all the popular or recreative serials in the room for light reading.

There are frequent articles in English library journals about arrangement of magazines, but I find nothing among them which seems to improve on methods generally understood here. See Duff-Brown.¹

"A really effective system of displaying periodicals is about as difficult to find as a first folio Shakespeare."
— *Burgoyne*.²

The few newspapers taken are generally mounted on sticks and hung from racks, though I have seen them left loose on tables.

¹ p. 382.

² 4 Lib. Asst. 197.

Newspaper Room

In English libraries this department seems prominent in all buildings, large and small. "The English newsroom is generally the largest and most convenient room in the building." In America, a few newspapers are kept in the light-reading room, but only large public libraries have separate rooms for newspapers. Where a considerable collection is kept, a large room will be required, with single sloping desks against the walls or double desks on the floor, with or without stools; or sometimes the papers are hung on the hooks of racks, and used at tables (with chairs) close by.

The newspaper room may be put in the basement with a separate entrance, as its use and supervision are generally separate from other uses of the library.

"Newspaper and magazine rooms should not be too large; two 30 x 50 are much less noisy than one 50 x 60, less draughty and easier to ventilate." — *Burgoyne*.¹

The opinion expressed by Dr. Poole in the United States Public Library Report of 1876,² "It is thought in some libraries that the expense of newspapers could be better applied to some other purposes," seems to be echoed in recent discussions in England. See *The Library Assistant*, Vol. 4.³ A moderate view advanced at one meeting was this: "It is exceedingly doubtful

¹ 2d Int. Lib. Conf. 1907, p. 103. ² p. 484.

³ pp. 157, 168, 169, 226, 233.

whether a newsroom is justified in towns with a population under 45,000." The matter is well summed up in the Library Association Record.¹ Reading the debates, and weighing the arguments *pro* and *con*, does not lead one to recommend planners of American libraries to provide more space for newspapers than it is customary to allow with us: a rack or two in small and medium libraries, for local papers and one or two metropolitan journals, but no separate newspaper rooms except in the public libraries of large cities. Even there, I imagine their use is more for reference and information than it seems to be in England. Champneys² calls the newspaper reader "a professional loafer."

However, "In libraries where the newspaper room is somewhat inaccessible, there is little annoyance from the tramp element. Branch library reading rooms in New York City, put on the third story for lack of sufficient space below, are almost entirely free from tramps. People willing to climb to that story really want to read." —*Bostwick*.³

This fact is worth noting in planning large libraries.

¹ Vol. 12, pp. 336, 337.

² p. 130.

³ p. 68.

Children's Room

This department, now considered a cardinal necessity in all libraries great or small, is a development of the last generation. No special rooms were devoted to this purpose before 1890. "Today it is tending to be a practically separate library, with its own books, circulation, catalogues, statistics and staff." — (*Bostwick*.¹) So great a success has it become, that a library without special provision for children would now be a curiosity.

In the smallest libraries, with only one room, separate tables and shelves are set aside for children. As libraries grow in grade, separate rooms are provided with special attendants as well. Here the shelving, tables and chairs are lower, often of two or three suitable sizes.

The idea at the outset was to segregate children so that their motion and chatter shculd not annoy adults who were using the library; now the notion is entirely educational, to catch and interest young children, so that they will contiune to use the library as they grow up. There are even separate rooms for smaller tots, on the kindergarten idea of attracting them with pictures before they begin to read. This purpose is furthered by having suitable pictures on the walls. Rooms are also fitted up for small audiences to whom stories are read or told.

Although children are only expected for a few hours every day, they are apt to swarm at those hours. The room or rooms so used ought to be at the same time home-like, cozy, attractive, and also well ventilated. The ground floor is the best place, though the basement has

¹ p. 78.

often to be used, in default of room above, and children have been sent up one flight of stairs, because they are better able to climb than adults. The stairs and hand rails should in this case conform to children's stature. If they can be shut off from the reading room by sound-proof partitions, quiet is preserved for the readers. Children are apt to be restless and murmurous if not noisy. "Children do not mind noise and crowding; adults do." In large buildings separate entrances are provided for children.

Special reference rooms are even provided in some libraries, and in the largest buildings teachers' rooms adjoin, so as to bring all school influences into the same suite and system.

Bostwick¹ advises (why?) that shelving should be confined to the walls if possible.

. In planning, the librarian should determine the scheme he will adopt for treating this problem, and a room or portion of a room or a suite of rooms should be assigned and fitted after the latest and most approved manner.

Discussion is still active, and new methods are developed yearly with constantly improving conveniences.

In England this movement appears to be viewed with some distrust. Duff-Brown² speaks of "the epidemic raging in the United States." But he devotes four paragraphs to it, and Champneys³ three pages. The latter, quoting Clay's School Buildings, gives an interesting formula of heights of seats and tables for children of different ages, though he thinks it difficult to get the small children to use low tables and the reverse. He also specifies the need of low hand rails for children on stairs; even two rails, one for adults, one for children. .

See Marvin, pp. 12, 17, 18; Dana, Lib Pr., 167; Bostwick, 78, 85; L. J. 1897, p. 181; Conf. 19, 28; 10 P. L. 346.

¹ p. 94.

² p. 390.

³ p. 89.

Women's Rooms

The separation of boys and girls, usually by a low hand rail, is favored in children's rooms, by obvious parallelism with school customs, but the separation of men and women into different rooms has never been common in America, although separate tables are sometimes assigned to "the use of ladies." But no "woman's room" is a necessity to consider in planning. In England it has been different. Duff-Brown¹ reports eighty women's rooms among over four hundred public libraries there, but he pronounces them unnecessary. Champneys² also thinks them "an indifferent success." "Experience has proved that a separate room for women is unnecessary." — (*Burgoyne*.³) If that is the verdict where they have been extensively tried, there seems to be no good precedent for wasting space on them in American libraries.

In various discussions of this subject, it has been stated that women sometimes use tables set aside for them, but not special rooms, and that such rooms require closer supervision, because the few who use them are more apt to mutilate or deface books and periodicals than any other class of readers.

¹ p. 387.

² p. 88.

³ 8 Lib. Asso. Record, p. 179.

The Blind

See Bostwick's chapter on "Libraries for the Blind."¹

"Books for the blind are handled by a public library in much the same way as those for the seeing. It is common to have a separate department or suite of rooms, but this is not necessary. . . . Owing to the size of the books, shelving for them is of unusual depth. . . . Free access to the shelves is as valuable to a blind reader as to one who has the use of his eyes."

"The question of space will arise in many places. No space could, however, be devoted to a more humane and valuable purpose than the storage of books for the blind, and every encouragement and support should be given to the movement." — *Duff-Brown*.²

Because of the space required, very careful consideration should be given by the building committee as to how much space the conditions of their community will allow them to give to such special wants. If they decide to have rooms for the blind, these ought to be, if possible, near an entrance from the street level. In regard to dimensions, shelving, etc., the librarian would best inquire of some library of the same grade and class. Experience is the best teacher, and the local treatment of this subject must be defined and specially planned for.

¹ p. 316.

² p. 158.

Special Rooms

Small libraries have no space for differentiation. One room, or a few rooms, must be divided by rails, low bookcases, or glass partitions, into the functions they can manage to separate. But as a library enlarges, and grows to other stories, it finds many advantages in segregating different classes of books and readers, thus approaching Dr. Poole's plan of separate reading rooms, or the department plan in universities. Even before any such activities have grown enough to occupy a full room, any space in a new plan which can be spared may well be marked "unassigned."

Some of these rooms are used in all public libraries of all sizes except the smallest; some of them are desirable in many other classes of libraries.

These rooms, in about the order of need, as libraries grow, are, —

(1) Local Literature,	(9) Education,
(2) Study,	(10) Lectures,
(3) Classes,	(11) Exhibitions,
(4) Patents, Science, Useful Arts,	(12) Pamphlets,
(5) Public Documents,	(13) Bound Serials,
(6) Art: Prints,	(14) Special Collections,
(7) Music,	(15) Information,
(8) Maps,	(16) Conversation,
	(17) Unassigned.

These rooms, except Information, do not demand ground-floor space, but can be assigned to upper floors. In a large library, they will be accessible by elevators anywhere; in a two-story library, or even in one of three stories with easy flights of stairs, the fewer readers who want to use them may be asked to climb rather than the larger throngs of general readers or borrowers of books.

Local Literature. I take up this first, because even a very small library may begin a collection, if only part of a shelf can be given to it. "In a small place," says Bostwick,¹ "the library may go as far in such directions as its resources warrant, and even without financial ability, it may stimulate sufficient interest to secure volunteer helpers." If you have or can get to look at Duff-Brown,² see his specification of the books, etc., a library may include in a "local collection." Everything local in the way of printed matter, is his summary. See a series of articles in *The Library Asso. Rec.*, Vol. 7, 1905, pp. 1 to 30, and Vol. 13, p. 268. This is an English example well worth following.

A local collection may include, besides books and pamphlets, maps, prints, even pictures, for which hanging space will be needed on the walls. Indeed, if a local antiquarian society can be drawn in as assistant handlers and curators, such a collection may assume a museum phase, and may need low bookcases for books, with ledges above for models and busts, cupboards for pamphlets and small objects, even glass cases for relics. It should have floor space for visitors before all these cases, and a large table and chairs for committee meetings. It is one of the rooms which might be shared by the trustees where accommodations are restricted. There is ample opportunity for special planning in such

¹ p. 306.

² p. 153, § 186.

a room, in accordance with the policies of the administration of the library.

Study Rooms. Here again the smallest libraries cannot spare special facilities. All users must share the limited space available. But when they get beyond the one-room or one-floor stage, some corners or intervals between other departments, or ends of corridors, or mezzanine rooms, might be found for private rooms, to be used for individuals, either alone or with one scribe or typewriter. Even in small towns, there are cultivated citizens, or professional people, or teachers, or reporters, even authors, who wish to use books, and prepare manuscripts alone, and can safely be trusted to do so without supervision. How great a service such rooms might do in any American community, I do not think is generally recognized.

"It is the library alone that can furnish inventors, investigators, and students of all kinds the opportunity to forestall wasteful effort." — *Bostwick*.¹

For individuals, such rooms can be small, and low, of almost any form, simply furnished with one small table and two chairs, with shelves at one side or end for a few books, and one window, not necessarily large, but giving good light on the table.

"A large room with stalls, or a series of small rooms with shelves, for students making protracted investigations and needing to keep books several days." — *Winsor*.²

Duff-Brown, however, thinks that students' rooms only establish another "privileged class," and make further demands upon the staff for service and oversight.

Rooms for Classes. In close connection with the last idea (indeed rooms might be interchanged for use

¹ p. 66.

² P. L. 1876, p. 471.

either several and collective), are the many classes, clubs, associations, etc., in the community so closely connected with the use of books that the library ought to offer them whatever hospitality its space can afford.

"The modern public library is the helpful friend of scientific, art, and historical societies, of the educational labor organizations, of city improvement organizations, of teachers' clubs, parents' societies, and women's clubs. At the library should be rooms suitable for their gatherings."

"One of the most important things in a library of any size is a room where a class can be met by their teacher, and not interfere with the regular work of the library."

— C. A. Cutter.¹

"Study clubs, reading circles, extension teaching, and other allied agents." — Dewey.

See liberal and well-lighted group of "seminar rooms" in the Wisconsin State Historical Society plans.—Adams.²

In a paper by Arthur E. Bostwick (which I happened upon in an English periodical³), there is this interesting account of the various uses of rooms in branch libraries at St. Louis: "Each has an assembly room *and one or more club rooms*, which are loaned free to any organizations desiring to use them for intellectual advancement, or for legitimate forms of recreation, such as women's clubs, chess clubs, groups of working men, socialists, classes in literature and philosophy, self-culture, and reading circles, art or handicraft societies, athletic clubs, dramatic clubs, military organizations, ecclesiastical bodies, the Boy Scouts, high school alumni, English classes for immigrants, D. A. R., etc." I imagine that most trustees would draw the line far short of the "etc.," but the list indicates to what length libraries are going on social and sociological lines, for which provision must be made in building.

Rooms for this purpose may be plainly painted and plainly furnished, but should be adequately high, especially well ventilated and made cheerful by color and light. How to define their sizes would be a matter for the local librarian to guess at, with his line of activities well mapped out. Where so much work beyond mere reading is to be done, there should be at least one sizable lecture room (the basement would do), one or more large rooms divisible by screens into several smaller rooms, and as many smaller rooms with sound-proof provisions as space would allow.

Patents, Science, Useful Arts. In industrial communities a room or suite of rooms for the literature of science and the useful arts, including sets of English and American patent specifications, will be found useful. Winsor¹ emphasized the necessity of providing for rapid growth in this department, at that time "150 large volumes a year."

A small library may properly shelve such scientific books as would especially benefit its working constituency, but could not think of patent reports. This is a luxury for the large libraries only, with present and prospective space to spare. Floor space is necessary for readers, with tables large and plentiful enough for many large volumes and plates outspread. Shelf room is needed around the walls or in alcoves, on the ground floor for the octavos, above for the larger books. Where the stories of the building have been already made lofty (it would not be necessary to have them lofty for this room alone), a favorite form has recurred to the first American "typical plan," to have around the walls tiers of alcoves and galleries combined, about the only place this discredited arrangement survives.

¹ P. L. 1876, 471.

Where the height of stories does not invite this form, such rooms can well take a frequent law library phase, with tables near front windows and combinations of wall shelving and wall cases opposite the windows, narrow alcoves as it were, for book storage, but not for readers.

Here seems an excellent opportunity to install some form of the new sliding cases, say a row of such cases along an inner blind wall, with tables and chairs toward the windows.

Public Documents. "Pub. Docs." are a burden on all libraries. They are the first gift to small village libraries, the accumulating gifts to growing libraries, the incubus on large libraries, and yet all feel obliged to keep at least part of them. Some of the national and state publications are very valuable, when distributed throughout the classes to which they belong; but of the large mass of records which ought to be preserved somewhere, what shall be retained, and where shall it be kept?

"Do not waste time, in the early days of the library, in securing public documents, save a few of purely local value. Take them if offered and store them." — *Dana.*¹

See the sensible suggestions of Bostwick:² "Government documents are a bugbear to many libraries. . . . We have some getting more than they want, others that have to buy them. The library of moderate size, not a repository, is inclined to disregard all government publications, which is a pity. The large library will shelve everything."

A serious problem in planning is where to stow this superfluity without interfering with essentials.

¹ L. Pr. 48.

² p. 71.

In an old house closets, upper stories and dry cellars can be fitted with fixed wooden shelving (for the sets are of uniform or similar sizes), some for octavos, some for quartos. New buildings may have a room or rooms assigned almost anywhere out of the way, even in the center of cellar or attic, with only artificial light. If the original or duplicates of the most important volumes are shelved under subjects elsewhere, the use of pub. docs. will be so infrequent that their location is a subordinate question.

How much space to assign is a question that depends on the circumstances and policy of the library; for instance, whether it is keeping United States, state and foreign government issues; or only one or part of one. In a small library a closet or an obscure corner will do. In a larger library, a dry part of the basement or cellar is enough. In a very large library, wherever space can be best spared.

Here again sliding cases may come into play.

How much space this literature may occupy is indicated in the L. C. Report of 1901,¹ which states that there were 87,654 volumes under this head in the Library of Congress at that date, besides 12,442 state "Session laws."

Duplicates. A room for laying aside duplicates is needed in all libraries large enough to have them. It needs as much rough wooden wall or floor shelving as the number or prospective number of duplicates demands, and can be put in cellar, basement, attic, or in any place not needed by the more active departments. It is one of the rooms that do not absolutely need good natural light, because it is not to be used by readers or the public.

¹ p. 327.

There should, however, be space enough for ready access to the books by attendants, and light enough for inspection. If there is to be any attempt made at systematic and continued exchange of duplicates with other libraries, this space and light will be more needed than if storage only is required.

As handling, access and inspection may be required at any moment, this class of books seems hardly adapted to sliding-case shelving.

Art. Small libraries cannot spare a separate room for this literature. But in many buildings in æsthetic communities of no great size, an "Art Room" is set aside before other extra departments attain the dignity of separation. Often a suite of rooms is assigned to the ornamental arts, Art, Prints and Photographs, Architecture, etc. Here, if anywhere, some elaboration in cases, shelving and furniture, in harmony with the motive, is excusable. The rooms surely should be most attractive in form and color. The bindings in themselves of books of these classes are usually decorative.

An unusual proportion of the shelving should be designed for large quartos and folios, to be laid flat and handled with care; part of the shelves, at least, with rollers.

Glazed bookcases preserve valuable books from dust and grime. Sliding doors leave them accessible. Large tables or desks or sloping ledges, with specially good light, are needed.

The location of such rooms should be prominent. No space can usually be spared on the ground floor, but a second floor, with ample, dignified, easy stairs, is an excellent location, and the top floor superb, as it allows good top light without interfering with wall space for

shelving and engravings above. Especially is this floor appropriate, if its center is allotted to an exhibition room on whose walls or in whose cases public exhibitions of the library's artistic prints and portfolios can be occasionally held.

Prints. Bostwick¹ says, "A department of the public library that is increasing in interest, and that may be said to be partly art collection, partly repository of useful information in pictorial form, is the print department. . . . Such collections are of value" (to eight specified classes of readers).

This use should be considered in planning an art room or suite.

See fine photographic view of the Division of Prints in L. C. Report 1901,² which will suggest ideas of arrangement.

Public Photographing. "In connection with such a suite, in libraries where visitors are allowed to make copies, a small room fitted for photographing, with an adjoining dark room, would be a convenience. In the largest libraries copies might be made for users at their cost." — *Burgoyne*.³

Bernard R. Green writes me, from the Library of Congress, "Be sure to emphasize conveniences for photographing and other processes of copying."

Dr. Garnett in Essays on Librarianship⁴ argues that every first class library should have a department to reproduce books and manuscripts by photography, managed by an expert on permanent salary, with a complete equipment.

Burgoyne, in The Libr. Asso. Record,⁵ wishes for public use in large libraries "a room say 10 x 15 with north light, for making photographic copies of prints and plates so that valuable books need not be taken from the premises."

¹ p. 308. ² p. 270. ³ p. 94. ⁴ p. 234. ⁵ Vol. 8, p. 184.

Music. Small libraries cannot afford a separate room for this use. Such provision as is necessary can be made in the open access rooms or near the desk. Bostwick remarks¹ that music is more valuable for circulation than for reference, sheets of music, and collections, being usually in quarto or small folio size. Duff-Brown advises² that it be shelved with uprights only eighteen inches apart, so that volumes or pieces will support each other.

As the collection assumes an important size, and includes sets of opera scores and assembled works, it may be given a separate room, or two small rooms, with special wall shelving. It has become somewhat usual, in large libraries, to put a piano here for trying scores, and phonographs for repeating them. When this is done, the room or one of the rooms should, of course, have perfectly sound-proof partitions, to shut off sound from other departments.

Provision of some kind must be considered for pianola rolls and phonographic records.

This department may well be assigned to an upper floor. It should, of course, provide shelving for the literature of music.

Maps. Any small library may have atlases, for which special shelving must be provided. An economical provision can be made by putting flat shelving under the table holding the catalog case.

A separate room for this branch of literature, which includes bound volumes, loose sheets, wall charts, globes, etc., is set aside only in large libraries. It cannot be expected on the ground floor, but might be on the same floor with Art, as it requires similar height, arrangement, light, and access.

¹ p. 71.

² p. 155.

Maps are kept in three forms, as in volumes (either coming in atlases, or bound up by the library) or in loose sheets or on rollers. For volumes, sliding, flat, and upright shelving will provide suitable stowage. For sheet maps or charts, large, shallow wooden drawers in dust-proof cases, sometimes with wooden flaps in front, are usual. Patent metallic map-cases are better, but more expensive. A high room affords wall space for such charts as can be read at a distance, and are frequently used. Wall space from the floor up should be reserved for hanging maps. Andrews and others recommend Jenkins' Map Roller. For using maps in any form, large tables in the centre of the room (trestle tables will do, to be brought in when wanted), and sloping desks or ledges under the windows, may be provided.

As sufficient space for this department is often hard to spare, a good location for it is at the end of a corridor. Here doors can be omitted, and the corridor space can be taken into the room. The corridor wall opposite windows is a fine place for hanging maps; the floor of the corridor, for globes and the like.

See C. W. Andrews,¹ Windsor,² Bostwick,³ Duff-Brown,⁴ Champneys,⁵ The Library Assistant, Vol. 8.⁶ See also a fine view of the Library of Congress map room in their 1901 report.⁷ To show how important a department this may become, and what room it may occupy, take note that the Library of Congress has 2,600 atlases and 57,000 maps and charts.

Education. This is an important subject in large libraries, and may even demand a separate room in smaller grades where there is much school work done.

¹ 8 P. L. 22.

² p. 69.

³ p. 42.

⁷ p. 263.

² 35 L. J. 509.

⁴ p. 158.

⁶ p. 188 *et seq.*

A simple room of moderate size and height, simply furnished, with wall shelving or floor cases for pedagogic literature will answer all purposes for teachers, committees and interested citizens.

Its position would best be near the school or children's department, using the same entrance.

It might also be used for teachers with classes, for laying out and sending out books to schools, or for a school reference department.

Indeed, as all Art rooms may properly be grouped together and assigned to the same floor, all rooms connected with children, schools, teachers, or education should be shared, or grouped together with a common entrance, corridor, or stairway.

Lectures. There seems to be a difference of opinion in this country as to the necessity or even the advisability of giving up space to assembly rooms or lecture rooms.

"In a small building an assembly room is a nuisance," says Bostwick.¹ See, however, his enumeration quoted under Rooms for Classes,² of the uses to which an assembly room has been put in a St. Louis branch.

In England, lecture rooms among progressive libraries are considered essential.³

It seems to me that a part of the basement, in all buildings which have basements, can generally be spared for a fairly large room to be put to a variety of uses, which even if not directly germane to the use of books, are proper work for a neighborhood club, which is what the modern small or branch library is coming to be. A fine room can be made under radial bookcases.

It is not necessary, or wise to have a sloping floor such as is used in colleges or public halls; too much height would be wasted by the slope. Nor need the

¹ p. 28.

² p. 325, *ante*.

³ Champneys, 101.

platform be large or high;— a foot high, enough for store-room under it, through trap doors, for such extra camp chairs as are needed for audiences; with enough light, removable tables, and light chairs for all uses to which the room might be put; a dead white wall back of the platform, and such arrangements as would allow stereopticon exhibitions; effective ventilation for a full room, even with the low ceilings of a basement, and you have provision for many needs of a small library. In larger buildings larger rooms may be provided, but always such as could be used in various ways, at different hours of day or night.

Six square feet, Duff-Brown¹ and Champneys² consider enough to allow for every auditor, including seats, gangways and platforms. Marvin³ says the same, but does not include platform.

For the use of audiences, while the rest of the library is working, there should be a separate outside door or wide door into a corridor directly communicating with the outside.

As such rooms are not so much used for reading, and are not high in the walls, light fixtures need not be so numerous or powerful.

Exhibitions. Where funds are scant, I doubt whether it is best to provide an art gallery for permanent or occasional exhibitions of pictures, with the necessary disposition of lights. But in sizable buildings, a large room can be spared for exhibitions directly or indirectly connected with books, and such a room can be so fitted up as to receive busts, statues and pictures presented to the library.

The center of the top floor of the main building offers an excellent position for a large room for exhibition purposes, with daylight from the roof. If suitable wall

¹ p. 409.

² p. 131.

³ p. 10.

material and covers are provided as background for pictures, with picture mouldings and with glass cases for the floor, it is ready for showing specimens of printing or binding, rare books, manuscripts, or prints and engravings.

As such an apartment would not be used for reading, it may be a common corridor for many rooms opening around it, which are devoted partly to exhibition, partly to consultation; for instance, art, music and maps. Thus arranged, the top floor would segregate many functions which elsewhere might interfere with the quiet of readers; and would provide most agreeable conversation facilities.

Pamphlets. In many libraries gifts of pamphlets are received, which cannot be separately catalogued at once. It is sometimes necessary to let them accumulate until time is found to assort them, decide what to keep and what to give away, what to bind and what to file in pamphlet boxes. In small libraries they can be kept temporarily in closets. In large libraries they often assume such bulk as will fill a room. Their stay in this form is so temporary that the room assigned can be remote (in the attic, for instance, of an old house), and very plain, not even finished, except for such light as will be needed in sorting and such heating as will keep workers comfortable.

Trestle tables, kitchen chairs, rough fixed wooden wall or floor shelving, will answer all purposes, and save money for use elsewhere. When the pamphlets are boxed or made ready for binding, they need not return here, but may find their places elsewhere in the stack or special rooms.

Bound Serials. Except a few serials which cover only special subjects, these are usually kept together, for general magazines in use are somewhat like ency-

clopædias. They are perhaps more readable, but are not often used for reading; rather for reference through Poole and other indexes. In any considerable collection they occupy so much shelf room that they will soon fill a large room by themselves, and they are so kept in many libraries. In the Library of Congress there are 123,805 volumes of bound periodicals, 68,127 of them "general."¹ If placed in the stack, the basement is a good assignment for them, for various reasons. If they are to have a room elsewhere it can be anywhere available; with wooden floor cases (movable shelves) and plain walls and ceiling so colored as to reflect light. As they are often heavy and awkward to handle, and as readers may want to give them a first examination on the spot, tables at one side of the room and carrels in the windows will facilitate use.

Sets of society publications are often kept in the same room with these serials.

Bound Newspapers. These require different storage. Small libraries will have to keep what they get, as they keep atlases and other folios. Growing libraries which have fireproof vaults will want to keep valuable local files there. Larger libraries with many newspapers must settle just how to keep them. It is not wise, even not possible, to set such heavy folios on end; they must be kept flat on the shelves. At first, economy may require using plain wooden shelves of special measurements, laying two or three folios on their sides on each shelf. But if there is much use of the papers, handling them in this way is difficult for readers and injurious to the folios. As soon as money can be spared, proper conservation and convenience require metallic roller shelves, which specialists will furnish. Those in the Massachusetts State Library have been found very satisfactory.

¹ L. C. Rept. 1901, p. 326.

Champneys¹ advises "very rough and ready storage; special rooms with open racks; magazines around the walls, newspapers in the center."

Special Collections. "Large libraries are apt to receive gifts, to be kept apart, either from direction or policy." — (*Winsor*.²) "A large library never has enough rooms for them." — (*Poole*.³) Fletcher⁴ speaks of the numerous gifts to libraries to buy books in some special department, giving a list of eighty-two subjects of such benefactions, with the names of recipient libraries, summarized from Lane and Bolton's Harvard Bibliographical Contributions. The Library of Congress Report of 1901⁵ gives a list of over one hundred and fifty subjects for separate rooms. Duff-Brown⁶ mentions many English special collections.

Where the donations or bequests are generous, it is customary to set aside separate rooms named for the donor, to books thus given. As such libraries are not often for popular reading, but are used mainly by special students, they may be assigned to upper floors. Gratitude suggests that they be treated more ornately than the stack, or the general reading rooms, and in such suites, indeed, there is opportunity for an artistic architect to get noble effects without extravagant expenditure. Wall shelving is appropriate, or even alcoves, for their idea is like that of private or club libraries. Floor cases or special stacks of less severe plainness than must be used elsewhere, are needed as the collections become so large as to require close packing.

The local librarian can tell how many such rooms are needed for the collections already set aside, but how many to anticipate in building is hard for anyone to say. Rooms or floors may be reserved, and marked

¹ pp. 69, 38, 43.

³ 11 L. J. Conf. 361.

⁵ p. 292.

² P. L. 1876, 470.

⁴ pp. 138, 143.

⁶ p. 154.

"unassigned," but experience shows that such spare spaces are usually wanted for some growth before the new building is completed.

Information. In small libraries there is some attendant at the general delivery desk who can answer miscellaneous questions. In larger libraries, this duty is often assigned to one of the staff occupying a separate desk near the delivery or the public catalog, or supervising the reading room. In large libraries the Providence example is good, where a counter on one side of the large delivery hall is set aside for this use, with its special collection of reference books handy. Only in very large buildings is a separate room necessary and even then it will generally be better to use a small room near the vestibule, or a nook, or niche or counter, wherever most convenient for the public to inquire and where it interferes least with other uses.

Conversation. Strict quiet is so necessary in reading rooms, and talking has to be discouraged so much in most of the building, that a large library ought to have some place when staff or visitors can be allowed a chance to talk when they must. Corridors are usually free from restraint, but it is not often possible to find seats there, or secure privacy. Vestibules and lobbies, however, are never needed for reading, and even if used for exhibitions, can allow more or less comfortable seats, so arranged in window nooks or recesses as to afford quiet corners for conversation. The crossing of corridors, or room under a dome (if such an architectural misfortune happens) can be utilized for this purpose; indeed, any vacant spaces on the floor plans, such as abound in many buildings, can be used for exhibition, decoration, information, conversation, even perhaps for smoking,—any diversions outside of reading which readers might like.

Miss Marvin¹ wants, even in small libraries, "a room in which conversation may be allowed, for the use of committees and for adults who meet at the library by appointment."

"Conversation rooms," says Champneys,² "may certainly be introduced in large libraries, and their presence has the advantage of being a continual reminder that conversation is not permitted in the reading rooms. In small libraries . . . the addition of a large room which can be used for committee meetings, lectures, exhibitions, and a variety of other purposes, cannot but be recommended."

In other words, talk can be allowed in lecture or exhibition rooms.

Staff talk is well provided for in any library in the staff work and rest rooms. Subdued talk about books might be allowed in reference rooms or open access rooms. This, with freedom to talk in halls and vestibules, may preclude necessity for a separate conversation room even in large libraries.

Unassigned. Notwithstanding this list of special rooms required, including most of the uses which can be foreseen, there is always opportunity in a progressive library, for more space still to be used, either in enlarging departments, or in establishing new ones. In planning, the wise way is to include specific assignment of space or rooms to all existing departments, and such others as seem to be on the lines of probable development, but also to get more room still, to be marked "unassigned." It will be taken up sooner than anyone anticipates. Indeed, as has been already said, there are many instances, where the spare space left "unassigned" in planning has been claimed even before the building is finished.

¹ p. 12.

² p. 102.

Instead of having lofty rooms, it is always best to divide the height of a library into as many floors as possible, making none loftier than actual use will require for light and ventilation. Never allow superfluous height of rooms or stories for architectural effect, outside or inside. Only by watching and limiting waste of space, in breadth, length or height, can you get the maximum of opportunity out of money you spend, or be able to get either all the departments you want or unassigned room additional.

If basement or cellar is not all taken up with your assignment of departments and rooms, underdrain and line the foundations carefully, and provide for such future features as duplicates, public documents, or rows of sliding cases for close packing of less used books.

PART IV

FURNITURE AND EQUIPMENT

I have mentioned these already under different headings, where they materially affected the size, shape, lighting, or situation of rooms. I shall not go into an enumeration or description of different outfit, because there are so many specialists, so many tastes, so many systems in different libraries, that selection of the latest and best devices offered by dealers accessible to the librarian is very easy. But a few general remarks on one or two articles, may properly be included in a general discussion on planning.

In the first place, never allow the furniture, fixtures or fittings to be chosen primarily for architectural effect, but for special use and fitness in every detail. In material, in shape, in hue, have them harmonize with the surroundings, for in such harmony lies the most effective and the least expensive beauty. Here, the taste of the architect can be of the utmost assistance. But, if possible, bar out what has been called "architectural" furniture, even if money can be spared for it. Heavy show-pieces, hard to move, hard to use, inconvenient, uncomfortable, wasteful of space, are an abomination in any library.

As to proportion of expenditure, Duff-Brown¹ allows eighteen per cent of total cost for fittings and furniture. He suggests, however, that fittings which are fixtures should be counted as part of the permanent structure. Perhaps this qualification explains the different estimate of Champneys,² who allows only ten per cent for furniture.

¹ pp. 408, 105.

² p. 116.

Bostwick¹ also recommends that fixtures be included in the general contract, and movables (which he specifies) be bought separately. He makes an excellent suggestion, that where this is done, a piece of the material to be matched, in its finished form, be sawed in two, and one piece handed to each contractor, so that the furniture and fixtures will match exactly. How important this is will be realized at many libraries, where the tint of fittings meant to match, often "swears."

Miss Ahern, editor of *Public Libraries*, writes to me, in answer to an inquiry:—

"I believe in putting technical equipment outside the lines of library building and architecture. A builder cannot make it as well as a specialist in library equipment."

My experience leads me to endorse her advice most heartily. I would say further, what she probably modestly refrains from saying, on account of her business connections, I would get the catalogues of The Library Bureau, ask and take their advice, and give them the preference where their prices are as low. I say this (I have not even an acquaintance with their present management) because theirs was the first attempt to serve libraries on this line intelligently, and I have understood that many years of altruistic experiment, advised by good librarians, were spent before they even met their expenses; so that their services merit a reward.

Miss Marvin² gives a "Typical List of Furniture" for a small building, with prices ruling in her section at the time she wrote. She fears, however, that she may have erred toward too great economy, "cheap furniture being unsightly as well as unprofitable as an investment."

¹ p. 291.

² p. 19.

One matter apparently often forgotten in planning is the matching or contrasts of color, furniture as well as woodwork, shelving, and walls and lamp shades. Not only is the general cheer and comfort of the library secured by harmonious environment, but eyesight is deeply concerned in soft and soothing effects. Here observation and taste may effect wonders in planning for both "utilitas" and "venustas."

Tables

These deserve a separate chapter; they are used everywhere.

"Good, plain, solid," epitomizes Champneys.¹

"Use small tables and light chairs instead of the large heavy tables and 'artistic' chairs, conformed to the style of the building, but awkward in use." — *Fletcher*.²

"The old style of long tables is now thought cumbersome," says Bostwick.³ This I endorse, though architects prefer large tables in large rooms, as more in proportion. He advises small, rectangular or ~~circular~~ circular tables for not more than six readers each. I doubt the circular in libraries where space is scant. They waste room.

"Should not be too long, or if double not too narrow."
— *Duff-Brown*.⁴

"Tables for four give readers a feeling of privacy."
— *Eastman*.

For this reason I rather incline to slightly sloping desks for two, like school desks, in reading rooms; all facing one way; all with a low back and sides, with a fillet at the front, to keep books and papers from falling; with extension slides or trough drawers for open books at each side of each reader. This form, it seems to me, combines a minimum of space for desk and passages, with a maximum of convenience and seclusion for readers. In the hours when the room was not thronged, there would be a desk to a reader. If the desks were rightly faced and the windows and lamps well arranged, no reader need have direct rays of light in his eyes, nor dazzling reflection from his paper.

¹ p. 46.

² 13 I.. J. 339.

³ p. 295.

⁴ p. 129.

As regards height of tables and space to a reader, see Eastman,¹ Marvin,² Bostwick,³ Champneys,⁴ Duff-Brown⁵ and Carr.⁶ They differ slightly, and each librarian would best experiment and judge for himself.

The British Museum has a kind of voting booth for each reader, with 4 feet 2 inches width of desk, high back and side screens for privacy. Cornell has something similar, but most libraries cannot afford so much space or such provisions for privacy.

Polished tops for tables (glass tops are sometimes inset) promote cleanliness, but are apt to give dazzling reflections of light.

One general caution echoed by many authorities warns against bottom cross rails between table legs. The scraping of readers' feet against them is noisy, drops mud on the floor, and soon wears down the rails.

Many libraries have umbrella racks at the end of the tables, and here the owners can certainly have an eye on them. But if a coat room cannot be provided with an umbrella stand, cannot such a self-locking rack be placed in a lobby, as is seen in many restaurants?

Umbrellas are damp and unsightly as neighbors, and they occupy space readers might use.

"Readers' tables should invariably have hinged flaps for writing, and slides to be drawn out to enlarge book space.

"There should be standing desks also." — *Edwards, Free Town Libraries.*⁷

Perhaps there was a demand by readers for standing desks in England forty years ago when Edwards wrote, but few people want to stand now in America while reading or writing. A fixed standing ledge against any vacant stretch of wall near directories, dictionaries or the like, might be a convenience.

¹ 30 inches.

² p. 295.

³ p. 129.

⁴ p. 45.

² pp. 10, 18.

⁴ p. 47.

⁶ 18 L. J. 225.

Chairs

Chairs are an important element in comfort. Strong enough for rough and constant use they must be. Graceful, or at least not ungainly, they ought to be and in most libraries they cannot be superfluously large. Indeed, there are many places where room can be saved by using stools, even fixed revolving stools. In some places armchairs (simple, not upholstered) will make readers more comfortable. For instance, in places where they can take up a book or magazine while reading and lean on the arms. Where a table is used to lay the book on, armchairs are not necessary, and they always need more room than plain chairs.

For a small library, the simplest kind of strong, bent-wood chairs suffice. Wood "saddle" seats, or rattan, are recommended rather than any upholstery, in larger libraries. To prevent noise, rubber tips to shoe the legs — the kind that screw in rather than slip on, are recommended.

Where there is no special coat room, hat racks underneath and such wire coat racks on the back, as are often used on theatre seats, are conveniences. Mr. Foster has these in the Providence Public Library, but he tells me they are not much used.

Chairs look better if they match each other, the tables, and the shelving, in material, style and color.

In planning it is wise after you have decided how many seats you want in each room, to have the architect sketch a floor plan and draw in shelving, tables and chairs, allotting to all the space which experience has taught is required for each reader in each room, as you intend to run it; and then carefully study the positions of the furniture and the dimensions of all the passages, checking results by examination of plans and visits to libraries which you think are satisfactory, until you are satisfied that you have reached the maximum of convenience with a minimum waste of space. A few hours' time spent in this apparently trivial matter may mean much in ease of administration for years to come.

Delivery Desks

In the very small library, where every expense must be watched, all the furniture may have to be of common shapes and material, such as can be bought at the nearest furniture store. But as soon as any necessary luxury can be afforded, build or buy a specially designed charging and delivery desk, for this is the center and heart of almost all libraries of any size or any class. Do not have it built by a local carpenter, but wait until you can buy it from an experienced cabinet maker, or better, from a first-class library fittings expert. Study catalogs and plans to see what comes nearest to your needs and methods. If you find within your means a model which entirely suits you, get it. But if using of that or other makes of desks, or trying your own methods, or suggestions of other librarians, have led you to think that some modifications would suit better, it will not cost much more to have them made in the style which otherwise pleases you. Indeed, if your wants are wise, you will find that a dealer may meet them without extra charge, in the hope that his desk will thus commend itself to other librarians. Only by this gradual study put into form by clever librarians, can the ideal desk be gradually evolved.

See articles in the Library Journal, 19, 368; 21, 324; 22 (Conf.).

See dimensions, Carr, 18 L. J. 225, Duff-Brown 105.

From the foregoing remarks on points of contact between library and public it will be seen that many of these are localized at a single point — the loan desk. "This point may be regarded as the heart of a public circulating library." — *Bostwick*.¹

"It may happen that the position and size of this desk may determine in conspicuous particulars the character of the whole building." — *Idem*.²

¹ p. 54.

² p. 291.

Catalog Cases

As the card system has been so universally adopted in America, and worked out to such standards of size that the most convenient makes, dimensions and sizes of cases for every grade of library are kept in the market in all large cities, there is no need of describing them here. But I would make some suggestions as to how they may influence planning.

Cases for small libraries may not need a special base, but can be used on any table, flat desk or ledge. As the library grows, it needs more cases, and a special base, such as all makers furnish, may be wanted. As cards, like books, are more easily used when they can be seen by the reader without craning or stooping, their increase is better met by broadening than by piling up, until wall space fails. In the first form of base used, it is better to utilize the space under the table, not so much in the cupboards or open spaces suggested in some catalogs, as in the upright or flat shelving of the quartos or folios (such as atlases) not handled so often as to interfere seriously with use of the cards, the primary purpose of the cases. This space beneath should certainly be put to some use wherever space is precious.

One form of catalog case frequently used is double-faced, set in the partition between the delivery room and the cataloguer's room, the drawers pulling both ways, so that they can be used alternately in either room.

In planning, the first thing is to calculate how many cards, drawers and cases are needed for the number of books now in the library, and the annual increase probable, for at least ten years ahead; better twenty-five years, if there is wall or floor room which will be vacant that long. Then comes the very important decision, vitally affecting the size of the room, perhaps its location, and the disposition of the windows and lights; namely, where is the best possible location for the catalog, considering accessibility, supervision and help? Provision for growth can be lateral or up and down, or both. When the drawers get to be more than three or four in a tier, some provision must be made in front of or beside them for a ledge or narrow table on which they can be laid when taken out for inspection. In small libraries the combined catalog case and atlas rack can be built so that the table will form a ledge on all sides, for this use, without other provision.

Good location and light for the public catalog make one test of the excellence of your plan.

Bulletin Boards

One thing often forgotten in planning is to leave available wall space where necessary bulletins can be hung and easily read,—a practical detail not always seen by the artistic eye. Everyone has seen dome and rotunda libraries, all columns and no wall.

In planning, however, it is not hard to assign opportunities in spaces sufficiently well lighted, but of no use otherwise, for hanging bulletin boards, or so treating walls as to serve that purpose without special boards. Lobbies, vestibules, corridors, stairways, spacious delivery rooms, even railings outside, invite such use. In England, want-lists are cut out from the daily papers, mounted on boards, and thus hung outside the library for inspection by the unemployed.

Places for bulletins should also consider — they do not always — near-sighted people, and the undersized. Even in such unprosaic matters, careful planning in every phase can promote the usefulness of the library. I remember being shown about a new dome library in the west, where the librarian turned in distress and asked, "Do tell me *where* I can put up my bulletins or lists." The only thing I could suggest was that she should get her architect to design a Parisian kiosk, to be set in the centre of the useless floor space, under the wasted heights of the dome; and use the exterior of the kiosk for bulletins, the interior for the brooms, for which no closet had been provided.

Miss Marvin¹ suggests spaces over radiators, shelves, periodical cases, and book bins. An ordinary screen, like those used in bar-rooms in any "wide-open" town, placed in the center of vestibule or hall would offer two sides for lists and bulletins posted at any convenient height.

If you have seen how masts going up through the cabins of river boats or coasters are backed with mirrors, you have a hint where to put bulletin boards in buildings on which columns have been inflicted.

¹ p. 18.

Other Fittings

These vary so much with the grades and classes of libraries, they change so much as inventions are made from time to time, that I go into no further details here, but advise librarians who build to examine each item they want to use, in the light of the last improvements and the experience of fellow-librarians.

[Burgoyne gives thirty-two pages, illustrated, to English devices.]

Clocks, thermometers and barometers are especially recommended by Duff-Brown.¹ Clocks (noiseless) will be useful in many rooms, also thermometers, but we do not watch barometers so much in the United States as our English cousins do.

A page in your note book devoted to furniture and gear, when you start out on a reconnoissance among other libraries, will fix many fleeting impressions which may come into use later.

And in your trips may sharp eyes and keen common sense travel with you!

¹ p. 113.

F.

APPENDIX

*In this Appendix
are printed quotations from the
outlines for planning
two of the largest of recent
libraries, both public.*

F. APPENDIX

CONCRETE EXAMPLES

By permission of the librarians of the New York Public Library and of the Brooklyn Public Library, I print here extracts from their respective "Terms of Competition" (already printed in pamphlet form) for the building just completed, and "General Suggestions to the Architect" for the building soon to be erected. The latter, hitherto unpublished, is very full, and is cross referenced and annotated, therefore likely to prove especially helpful.

I thus present practical details of the planning of two large recent American library buildings, in the hope of throwing a fresh light on the problems I have treated.

It will be noticed that one of these libraries was built after an architectural competition; the other has been planned, and will be built, after the method preferred in this book, selection of the architect at the outset, without competition.

Librarians, architects and building committees about to plan a very large library may review their subject in these summaries; and those engaged in less extensive plans may select the rooms and combinations which meet their own needs.

The side headings and italics are mine.

C. C. S.

TERMS OF COMPETITION

THE NEW YORK PUBLIC LIBRARY

Astor, Lenox and Tilden Foundations.

Plan of Competition. In May, 1897, the Committee announced that it proposed to obtain plans by means of two consecutive competitions. An open competition was to be first held. The Committee was then to choose from the authors of the twelve most meritorious sketches certain of the competitors, not more than six in number; and the persons thus selected, with not more than six other persons or firms thereafter to be named by the Committee, were to be invited to take part in a second restricted and paid competition.

Cost and Jury. Each of the competitors will be paid \$800, as the estimated cost to them of the drawings required.

The drawings will be judged by a jury of seven persons consisting of three practising architects to be selected by the competitors themselves, three members of the Board of Trustees to be hereafter named by the Board, and the Director of the New York Public Library.

Experts. The Trustees also reserve the right of appointing consulting engineers to whom all construction drawings and all drawings relating to heating, ventilation and electrical apparatus shall be submitted for approval before they are carried into execution.

Plans to File. The architect shall furnish to the Trustees, upon completion of the building, a full set of drawings exhibiting all essential particulars of its design and construction, for future reference.

Light. All rooms used by the public or for clerical purposes must have as much daylight as possible. The windows should run nearly to the ceilings, and in the reading rooms should not come within five feet of the floor. They should be large and little obstructed by framework.

The book stacks also should receive as much daylight as possible; but it is not expected entirely to dispense with the use of artificial light in the book stacks.

Heat and Air. The building should be heated by steam applied in part through hot water, and at least 1,500 cubic feet of fresh air per person per hour, for all occupied rooms must be warmed, introduced and properly distributed by mechanical means, and flues must be provided of such size that a velocity of 6 feet per second will furnish the above amount.

Material. The floors in the main halls, corridors and exhibition rooms are to be of marble, tile or mosaic; in the Trustees' and Director's Rooms of wood or parquetry; and in the book stacks of white marble slabs. In the Reading Rooms and Administration Rooms the floors may be of brick or concrete, as they will be covered with a thick cork carpet or other noiseless material.

The building must be thoroughly fire-proof.

For the purposes of this competition it is to be assumed that the building will be constructed of masonry, except the book-stacks; that the so-called skeleton construction of iron will not be employed; and that the external walls will be faced with Indiana limestone — although, as hereinafter stated, that material may not be finally adopted.

The Trustees are advised that the majority of librarians regard brick as the best material from a practical point of view, and the competitors are invited to say whether in their judgment it can be so used as to secure for this building the dignity and monumental character that is desired.

It is believed that ample opportunity will exist for architectural and decorative effect; but it is desired that the Reading Rooms at least should be plainly treated.

Tentative Plans. In instituting, in the month of May, a Preliminary Competition under substantially the same requirements, the Trustees submitted a set of diagrams showing a tentative arrangement which was suggested as a possible solution of the problem, but one for which they entertained no special prepossessions. The important features of the interior as there shown, placed the main reading rooms on the third floor, and the book-stacks immediately below them along the west front of the building. This plan, which embodied the results of considerable study, has since then been subjected to the critical examination of the leading librarians of the country, and has also been carefully reconsidered by the Committee and their professional advisers in the light of the abundant illustration afforded by the plans submitted in the Preliminary Competition.

Details. The Lending Department must be distant from the reading rooms, and must be provided with easy and direct access

from the street. The Children's Room, and the Periodical and Newspaper Rooms, must be provided with similar easy access and should probably be on the first floor. The Accession Department must have direct communication with that portion of the main stack which is on the same level, and also with the catalogue room—either directly or by means of a lift. The delivery desk in the public reading rooms must be central and so situated as to overlook each of the large public reading rooms. The machinery for bringing books from the stacks must be as direct and simple as possible.

Stacks. The book stacks occupy two stories and the basement and have the Reading Rooms in a third story above them. This arrangement gives the Reading Rooms the maximum amount of light, brings the stacks into easy and direct communication with them, and allows of the extension of the building towards the west at some future day, by enlarging both the stacks and the Reading Rooms simultaneously and proportionately, with a comparatively small enlargement of the portions of the building devoted to administrative and other uses.

Working-rooms. The administration is concentrated on the south side of the building. A private entrance for the use of employees is provided, and also a driveway from the street to admit of the passage of carts containing books or stores. The boilers, engines, dynamos and coal vaults are placed outside of the building and below the level of the 40th Street sidewalk. In the basement near the driveway are the storerooms, book-bindery, printing room, and rooms for packing and exchanging books and for issuing them to branch libraries. Above are receiving rooms for books, accessions department, cataloguing room, and order and checking department. Between the administrative part of the building and the part open to the public, come the rooms for the Director and the Trustees.

In the basement, near the Forty-second Street entrance, which will be approximately on a level with the sidewalk, is the delivery room for the Lending Department, running up into the first story. It is next to the book stacks, and occupies the lower part of the northern area or open court, and is lighted from above.

Floors. The different floors of the building are to coincide with the level of the floors of the book stacks. The floors of the book stacks are to be seven feet and six inches apart, from top to top. The basement and second stories of the building will accordingly be fifteen feet in height, from floor to floor, being two stacks high; and the first story will be twenty-two feet and six inches, or three stacks in height. The smaller rooms in the first story may have

rooms over them in a mezzanine. The floor of the basement story will be a step or two above the 42d Street sidewalk at the entrance.

Conditions. The arrangement of rooms in the basement on the southwest corner, above indicated, permits the packing and ready distribution of books for the lending branches to be hereafter established. The central portion of the basement between the two courts affords a suitable location for the ventilating machinery of the building. The special reading rooms for students on the second and third floors, while in easy communication with the main stack, are removed from the main reading rooms and from the portion of the building most frequented by the public. The main reading rooms on the third story are removed from dust and noise, and enjoy the best form of light from above. *It is considered preferable not to have the rooms very lofty, and the skylights should be large so as to diffuse the light as much as possible. Domes are accordingly not desired.*

Stack Light. The arrangement of the stacks affords a reasonable amount of light, and does not make the stacks wholly dependent on artificial light, which will be expensive and in other respects objectionable.

SCHEDULE OF ROOMS.

A.

Reading Rooms Freely Open to the Public.

- I. Main Reading Rooms. In the main public reading rooms space for at least 800 readers will be required, with an allowance of 30 sq. ft. per reader, exclusive of space required for catalogs and reference shelving, or about 26,800 square feet in all.

This *space should be divided into three rooms, so arranged that only one need be used at a time, but that all can readily be served from one delivery counter, which should be central and close to the main stacks.

There should be at least 3,500 feet (linear) of shelving for free reference books in these rooms and the Card Catalogue, occupying at least 150 sq. ft., must be provided for near the delivery desk.

In all the reading rooms and wherever else it is required, shelving must not be more than seven

Schedule of Rooms—(*continued*).

shelves in height. This gives seven feet of shelving for each running foot of wall-space. Where there is not enough wall-space for the amount of shelving called for, stacks of double shelves, back to back, may be employed, either projecting from the walls, or standing free in the room.

The ceilings of the reading rooms should be kept as low as is consistent with pleasing proportions. There should be no waste spaces to be heated and kept clean.

It is not desired that these reading rooms should be show rooms so as to attract sight-seers.

- II. Periodical Room, 4,000 sq. ft.; 1,500 linear feet of shelving. This room must be upon the first floor.
- III. Newspaper Room, about 4,000 sq. ft. area, on first floor. Store room for bound newspapers adjacent, either in main stack or separate room.
- IV. Patents Room. 2,500 feet of shelving; 25 readers, 3,500 sq. ft.
- V. Public Document Rooms, 4,000 sq. ft.
- VI. Children's Room, 4,000 sq. ft.; 1,000 feet of shelving; 80 readers.
- VII. Library for the Blind, 800 sq. ft.; 20 readers; 225 feet of shelving; on first floor.

B.

Reading Rooms for Scholars and Special Students.

(Admission by card.)

- VIII. Special Reading Rooms, 5 or 6 rooms, each with 1,000 to 1,500 feet of shelving; and from 1,800 to 2,000 sq. ft.; on second and third floors.
- IX. Manuscript Department, 1 store room, 800 sq. ft.; 1 reading room for 6 readers, 340 sq. ft.; 1 librarian's room, 340 sq. ft.
- X. Music Room, 1,600 feet of shelving; 800 sq. ft.
- XI. Bible Room, 1,000 feet of shelving; 800 sq. ft.; 6 readers.
- XII. Map Room, 1,000 sq. ft.
- XIII. Special Work Rooms for special students, 8 rooms, each 150 sq. ft. with 100 linear feet of shelving.

C.

Lending Department.

XIV. Lending Delivery Room. Delivery counter at least 60 feet long; seats for 150 waiting; 2,000 feet of shelving; catalog space; bulletin boards; about 16,000 sq. ft. Small reference collection here.

The stack of books in this room should be close to the main stack, and have machine communication with the delivery desks in the main reading rooms. Basement floor.

D.

Exhibition Rooms Open to the Public.

XV. Picture Gallery, 5,000 sq. ft. (The Lenox Gallery is 40 ft. x 56 ft.)

XVI. Stuart Collection Room, 5,000 sq. ft., must be on same floor with the Picture Gallery and with easy access to main Reading Room.

XVII. An Exhibition Room for the History of Printing, etc., 4,000 sq. ft. May be on the first story, and some smaller rooms for the same purpose may be provided on the third story.

E.

Administrative Rooms not Open to the Public.

XVIII. Trustees' Room, 800 sq. ft., near the Director's rooms, with a large safe for the Secreatry, and open fireplace.

XIX. Director's Rooms. 1 office, 900 sq. ft.; 1 private room with lavatory, 600 sq. ft. Near to Trustees' Room; also to Order Room. Open fireplaces.
This must come between the Public and the Administrative part.

XX. Order Department, 2,600 sq. ft.; 300 feet of shelving. Between Director's Office and Cataloguing Room.

XXI. Cataloguing Room, 2,800 sq. ft.; 1,000 feet of shelving. To connect easily with Order Room, Receiving Room, Accessions Room and Stacks and Printing Office. Cloak Room and Lavatory for Women appended.

XXII. Accessions Department, 1,800 sq. ft.; 150 feet of shelving. To connect with Cataloguing Room and with Stacks.

XXIII. Receiving and Checking Room for Books, 1,500 sq. ft.; 600 feet of shelving. To connect with Packing and Delivery Rooms, and with Cataloguing Room, by elevator.

XXIV. Packing and Delivery Room, 500 feet of shelving. On driveway; easy connection with Receiving Room and with Duplicate Room; also with store-room for boxes in cellar. 3,600 sq. ft.

XXV. Duplicate and Exchange Room, 50 ft. x 60 ft.; 3,000 sq. ft.; 4,000 linear feet of shelving; may be in base of stack. Easy connection with Packing Room.

XXVI. Main Stack Room for 1,500,000 Volumes; 187,500 linear feet of shelving. This amount of shelving (allowing for proper ventilating arrangements and dust tubes) can be contained in six tiers of stacks, each tier being 240 ft. x 75 ft. with 5-foot corridor all around, 5-foot corridor on long axis, and 15-foot corridor on short axis, straight stairs at ends and at centre. Stacks 5 ft. between centres, 7 ft. 6 in. in height; ends of stacks 5 ft. from windows.

XXVII. Binding Department. 2,400 sq. ft., with Stock Room 250 sq. ft. Furnace flue required.

XXVIII. Printing Office, 1,200 sq. ft. Stock Room, 200 sq. ft. Furnace flue required.

XXVII and XXVIII to be on south front, next each other, with small dumb waiter connection with Cataloguing Room and separate chimney flues.

XXIX. Business Superintendent's Office, 400 sq. ft., two rooms, safe in one.

XXX. Photograph Rooms 500 sq. ft. Top floor. Skylight to North. Dark room. Printing room.

XXXI. Lunch Rooms, one for boys and attendants; one for librarians and assistant librarians, etc. Basement, 800 sq. ft. Chimney flue.

XXXII. Class Room, to seat about 150; 850 sq. ft. To be near the Director's Room.

XXXIII. Stock and Store Room, general. 400 sq. ft.

XXXIV. Eight or Ten Rooms, of about 200 sq. ft. each, for store rooms and special work rooms = 1,600 sq. ft. One for scrub women.

LIBRARY BUILDING

- XXXV. Central Telephone Office for the house.
- XXXVI. Engineer's Department. Boiler rooms; Dynamo room; Work-shop; Engine room; Living rooms for Janitor — 30,000 sq. ft.
- XXXVII. Boilers, Engines and Dynamos to be outside the building, in vault about 120 ft. x 40 ft, south of building and near its S. W. corner, with coal vaults extending beneath sidewalk.
- XXXVIII. Dust Tubes and Closets, with electric fans; to be arranged in stacks, and for open reference shelves.

F.

Miscellaneous.

- XXXIX. Two Reception Rooms. One for staff, 600 sq. ft. One for visitors, 600 sq. ft.
- XL. Women's Room, 200 sq. ft., with lavatory, on third floor.
- XLI. Two Cloak and Parcel and Bicycle Rooms, 600 sq. ft. each, near Forty-second Street entrance.
- XLII. Public Telephone Room, 60 sq. ft. Main Hall.
- XLIII. Public Lavatories and W. C. Two in the Basement and two on the 3d Floor.
 - Staff lavatories and W. C. are to be provided, two in basement, four on second floor.
There must be wash-stands in or near children's room, cataloguer's room, packing room and receiving room, arranged on the main lines of plumbing.
- XLIV. Elevators, two or more, for use of public in Main Hall. One in Administrative portion. Book lifts.

BROOKLYN PUBLIC LIBRARY CENTRAL BUILDING.

GENERAL SUGGESTIONS TO THE ARCHITECT.

General. These suggestions are intended for the purpose of assisting the Architect in working out his plans, and in no way to hamper him. It is possible the Architect may find a different arrangement of rooms more suitable to the building which he plans, and while it is desirable that he conform as nearly as possible to the suggested arrangement it is not necessary to follow it closely.

Estimates. In submitting preliminary plans the approximate cost in the shape of estimate from at least three reputable builders should be given exclusive of heating, lighting, ventilation, book stacks and all fixed furniture.

Guides. The number of stories should include sub-basement, basement, and as many stories above the ground as will comport with the Memorial Arch and surrounding buildings, providing at the same time adequate capacity for the needs of a Central Library Building. Your attention is called to the report of the Consulting Architect, Prof. A. D. F. Hamlin to the Central Building Committee under date of March 25, 1905; and of the reports of Frederick Law Olmsted, Jr., made to the Brooklyn League under date of October, 1905, and of Messrs. Carrere and Hastings to the Mayor of New York, under date of November, 1905, and *the comparative table of accommodations of various library buildings as prepared by the Brooklyn Public Library*. All these documents should be studied preliminary to the preparation of plans.

Requisites. *Architectural effect should be subordinate to utility and convenience.* Consideration should be given to the probabilities of extensions to the building.

The prime essentials for the library building are light and ventilation. The building should be lighted on all sides by natural light. Walls which face open courts should be of light colored material.

The building should be thoroughly fireproof.

The whole building is to be piped and wired for both gas and electric lighting.

The decoration of the reading rooms should be very simple.

Wall space should not be occupied by heating pipes.

All halls and stairways should be ample and well lighted.

The dimensions given may be considerably varied provided they are not materially reduced. All rooms should be so planned as to provide wall shelving 3 feet in the clear without loss of space and without any architectural obstruction.

Grouping of Rooms According to Use.

- (a) Public rooms.
- (b) Work rooms.
- (c) Executive rooms.
- (d) Stack.
- (e) Mechanical service.

A. PUBLIC ROOMS.

Children's room.

Delivery room (Circulation Dept.).

Registration room.

Reading Rooms.

- (a) Reference.
 - 1. General.
 - 2. Statistical Dept.
 - 3. Patents.
 - 4. Music.
 - 5. Art books.
 - 5a. Bell collection.
 - 6. Manuscripts.
 - 7. Maps.
 - 8. Public documents.
 - 9. Restricted and rare books.
 - 10. Prints room.
 - 11. Photograph room.
- (b) Periodicals.
 - 1. General.
 - 2. Scientific.
 - 3. Store room for unbound back numbers.
 - 4. Bound magazines — or space in stack.
 - 5. Newspapers.

Public catalog.

Club rooms.

Study rooms.

Auditorium or Exhibition room

Lunch room (Restaurant).

Public reception.

Stenographer.

Telephone.

Writing and copying rooms.

Coat room.

Toilets.

B. WORK ROOMS.

Superintendent of Building's office.

Engineer's rooms.

Janitor's rooms.

Janitor's living rooms.

Scrub women's rooms.

Binding.

Repair room.

Printing plant.

Work Rooms (staff).

Supply Department.

Store room for supplies.

Book Order Department.

Packing room.

Delivery stations room.

Apprentice class room.

Cataloguing Department.

Library of Congress Card Catalog room.

Traveling Libraries Department.

Interchange Department.

Foreign Book Department.

Work Rooms (Special Rooms for Staff).

Two lunch rooms.

One staff sitting room.

One staff meeting room.

Butler's pantry, kitchen, etc.

C. EXECUTIVE OFFICES.

Trustees' room.

Committee room.

Librarian's Public office.

Librarian's Private office.

Librarian's Secretary's office.

Stenographer's room.

Assistant Librarian's office.

Supt. of Branches office.

Finance Department.

Offices of the Superintendents of Cataloguing, Children's, Traveling libraries, Supply Department, connected with their respective departments.

D. STACK.

Stock room accommodations for books purchased and unassigned. Storage room for little used books.

E. MECHANICAL SERVICE.

1. Public telephone.
2. Interior telephone.
3. Book carrier.
4. Pneumatic tubes.
5. Elevators.
6. Book lifts.

SUGGESTED FLOOR ARRANGEMENTS AND DIMENSIONS OF ROOMS.

By a proper grouping of rooms it may be possible for one attendant to temporarily supervise several rooms.

Stack.

An allowance of 10,000 sq. ft. on each floor will provide accommodation for 1,600,000 volumes.

Separate Building or Sub-Basement.

Heating, ventilating and lighting plant.

Basement.

Janitor's work room	300	sq. ft.
Engineer's room (office)	300	"
Engineer's work room	400	"
Scrub women's room	300	"
Store room for supplies.....	1,000	"
Bindery	5,000	"
Printing plant	3,000	"
Auditorium or Exhibition Room.....	4,500	"
<hr/>		
	14,800	sq. ft.

Ground Floor.

Book Order Dept.	3,000	sq. ft.
Supply Dept.	2,500	"
Packing room	1,500	"
Delivery Station room	1,000	"
Repair room	1,200	"
Library for the Blind	2,000	"
Supt. of Building — office	500	"
Coat and parcel room	600	"
Public telephone room {	300	"
Public reception room } combine	300	"
Telephone switch board	200	"
Public toilet rooms	700	"
Private toilet rooms	700	"
Lockers for 200 employees	600	"
Newspaper reading room	2,500	"
<hr/>		
	17,600	sq. ft.

Main or First Floor.

Children's room	5,000	sq. ft.
Delivery room (open shelves)	3,000	"
Executive offices	4,900	"
Trustees' room	900	sq. ft.
Committee room	400	"
Librarian's public office	400	"
Librarian's private office	500	"
Librarian's Secretary's office	400	"
Stenographers' room.....	600	"
Assistant Librarian's office	400	"
*Supt. of Branches office	300	"
Finance Department	1,000	"
Reading rooms — Periodicals	4,000	"
Reading rooms — Scientific periodicals	400	"
Reading rooms — Store room for unbound back numbers	600	"
<hr/>		
	17,900	sq. ft.

* Other Superintendents provided in the space allotted department.

Second Floor.

Reference room	10,000 sq. ft.
Special reference rooms as follows: —	
Statistical Dept.	800 sq. ft.
Patents room	2,500 "
Map room	1,500 "
Public documents room for readers.	1,200 "
Restricted and rare books	400 "
Public catalog	1,500 "
Public writing and copying rooms	800 "

	18,700 sq. ft.

Third Floor.

Music room	1,500 sq. ft.
Prints room	800 "
Art book room	2,000 "
Manuscripts	800 "
Photographic room	400 "
Photographic dark room	120 "
Apprentice class room.....	2,500 "
Staff meeting room	1,000 "
Bell collection.....	1,200 "
Study and club rooms (3 or 4)	1,200 "
Cataloguing Dept.	5,000 "
Library of Congress Card Catalog room	1,000 "
Traveling Library Dept. and Interchange	600 "

	18,120 sq. ft.

Mezzanine Floor.

Staff sitting room	600 sq. ft.
Two lunch rooms: —	
One	400 "
One	800 "
Pantry and kitchen	
Public restaurant	900 "

	2,700 sq. ft.

Fourth Story (if any).

Janitor's living rooms	1,500 sq. ft.
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Totals.

Prof. A. D. F. Hamlin has estimated that the available ground space for the building might vary according to different types of building from 31,250 sq. ft. to 44,600 sq. ft. Our estimate of the space required, including rooms, halls, etc., and stack is about 36,630 sq. ft.

(Above basement):—

Ground floor	17,600	sq. ft.
Main or first floor	17,900	"
Second floor	18,700	"
Third floor	18,120	"
Mezzanine floor	2,700	"
Fourth floor	1,500	"
	76,520	sq. ft.
Stack — 4 stories of main building.....	40,000	"
	116,520	"
Add for halls, stairs, walls, vaults, toilet rooms, etc.	30,000	"
	146,520	sq. ft.
Average per floor (4).....	36,630	"

ALPHABETICAL ARRANGEMENT OF ROOMS.

Under each room is given the purpose and best arrangement in relation to other rooms. The list also includes such headings as "Furniture," "Shelving," etc.

Accession Department, see Cataloguing Department.

Apprentice Class Room. For students who are taking the training course in the library preparatory to admission to the library service. Accommodations should be provided for one hundred students.

Need not be considered in relation to other rooms, and may be placed on top floor or wherever convenient.

The room might be divided into sections by sliding partitions so that a part or the whole could be used either for class work or for entrance and promotion examinations, and should be planned as a regular school class room containing such necessary appliances as desks, chairs blackboards, etc.

A sufficient number of lockers should be provided in a dressing-room near by.

If the room is not divided as mentioned above, a study room containing a working collection of library literature would make study possible by members of one class while another class is in session.

Art Book Cases, see Furniture, Art Book Cases.

Art Book Room. All the large heavy books belonging to the Art Book Collection will be placed here in cases or on shelves.

There should be accommodation in this room or a nearby stack for 15,000 volumes.

If an Exhibition Room is not provided the Art Book Room together with the Photographs, Music and Manuscripts Rooms, might be connected so that when desired they could be converted into an Exhibition Room.

If convenient the Art Book Room should be near the Reference Room.

If located on different floors, the Art Book Room and Photographic Room should be connected by a large size book lift.

Auditor's Office, see Finance Department.

Auditorium. It is a question whether in view of the nearness of the Brooklyn Institute the Library should provide an auditorium. If so, it should be capable of being turned into an Exhibition Room, which see.

It is probable that a seating capacity of 400 or 500 would be sufficient, although it may be thought best to provide for 1,500.

If arranged so as to be used as an Exhibition Room it might be subdivided by movable partitions.

It should be provided with lantern and screen.

This hall should be used for literary purposes only.

May be placed on top floor or basement. If the latter, there should be an outside entrance, and also one from the library proper.

Automatic Book Carrier, see Book Carrier.

Back Numbers of Magazines, see Periodical Reading Room.

Bell Collection. A collection of 12,000 volumes given by Mr James A. H. Bell on the conditions that it should be in a separate room, and that the books should be for reference purposes only.

Need not connect with any other room.

Bells. Connection might be made from some of the rooms, such as Librarians', Delivery, Reference, with the janitor and engineer.

There should be outside door bells so arranged that the current to same may be turned off or on. Switches to be under lock and key inside the building.

Bicycle Room. A small space is probably all that will be necessary, and it is a question whether racks outside, or inside the building on ground floor would not serve the purpose.

Bindery. A room should be provided large enough to hold heavy machinery and to enable the library to have its own binding done within the building, although it is not at all certain whether it is not more economical to give the use of the room to some binder and arrange with him to do the work at so much per volume.

Should go in the basement near the Repair Room.

If all binding is not done by the Library, the Repair Room if made larger will accommodate the necessary machinery for what is to be done, and should be so constructed as to bear the weight of heavy machinery.

Blind Department, see Library for the Blind.

Boiler Room, see Heating Plant.

Book Carrier. A noiseless device for carrying books from the Book Stack to the Delivery Desks in the

- (a) Reference Room.
- (b) Delivery Room.
- (c) Periodical Reading Room.
- (d) Children's Room.
- (e) Delivery Station Room.
- (f) Wherever rooms are indicated as near Stack and cannot be so placed the carrier might be used.

A very successful carrier made by the Lamson Store Service Co. is said to be in use by the Carnegie Library of Pittsburgh. The Library of Congress and Boston Public Library also have carriers.

Book Order Department. Including the Ordering and Receiving Departments. Orders for books are sent to this department and forwarded to the publishers. Books are received from the same source, unpacked, checked with the bill, etc., before they go to the Cataloguing Department. A part of the room should be arranged as a Receiving Room where the cases of books could be unpacked.

It should be on the ground floor near the Packing Room and the depository sections of the Stack which contain the stock of unassigned books (20,000 volumes) and the little used books (30,000 volumes). It should be connected with, but not necessarily adjacent to, the Cataloguing Department, with which it might be connected with a freight elevator, so that truck loads of books can be quickly transferred.

A small office or office space for the Superintendent should be provided.

Bound Files of Newspapers, see **Newspaper Reading Room**.

Bound Files of Magazines, see **Periodical Reading Room**.

Branches, Superintendent, see **Executive offices**.

Building Superintendent's Room. An office for the Superintendent of the building should be provided near the entrance on the ground floor.

Building, Size of. Inasmuch as the plot is surrounded by broad open spaces the building may be brought much nearer the lot line than would otherwise be desirable. Unnecessary space should not be given to halls and corridors, although these should be ample.

The size of the Reference and Reading Rooms may be increased if there is any additional space available.

Card Cases, see Furniture — Card Catalog Cases.

Cataloguing Department (Official). Books for all branches of the library as well as all departments and the Central Library are accessioned, and catalogued by this department.

Space should be allowed for at least fifty employees. It may be on the third floor. It should connect with the Book Order Department as indicated, and be located near Traveling Libraries and Interchange Departments.

An office or office space should be provided for the Superintendent of the department.

The freight elevator might open into a small room or hallway adjoining the Cataloguing Department instead of opening directly into the room itself.

The room should, if possible, be so planned that there will be good light on both sides so that desks may be placed on both sides of the room.

The space allotted to the department may, if necessary, be divided into two connecting rooms, one of which would contain some thirty typewriting machines.

Alcoves formed by book cases might be placed on one side of the room to separate the desks of the typewriters from each other.

Space must also be allowed for card catalog cases for 2,000,000 volumes. These may be placed back to back and form a sort of partition through the middle of the room.

Cataloguing Department — Library of Congress Depository Catalog. The cards of the Library of Congress Catalog are filed in Catalog Cases in this room and the Catalog must be accessible to the public, and should adjoin the Official Cataloguing Department. Provision should be made for at least fifty catalog cases in addition to table, desk, chairs, etc.

Catalog Room (Public). Contains a catalog of all books in the Library system printed on cards, and arranged similar to those in the Official Catalog Department. It would be used by the public and should be near the Reference Room so that the Reference Librarian could use and supervise it.

If possible it should be accessible for the Delivery Department and Official Cataloguing Department. Space should be provided for the same number of cases as in the Official Department. These cases could be placed against the walls or in rows.

Charging Desk, see Furniture — Delivery Desk.

Check Room, see Coat and Parcel Room — Public.

Children's Room. A room for the use of the juvenile borrowers of the library. All juvenile books will be charged and discharged in this room. Provision should be made for seating about two hundred children. The total space allotted for this department may be divided so that there will be an office for the Superintendent (who has charge of the work with children), a small room to contain a selected collection of juvenile books which may be consulted by teachers, parents, etc., and the reading and delivery room for children. A portion of the latter might perhaps be partitioned off for reference use. Plenty of room should be provided for this purpose.

This department should be situated near the Delivery Room of the library, and if possible, connect directly with the Open Shelf Room of that department.

The entrance to this room should be similar to that at the Pacific Branch Library, *i.e.*, two doors, one for entrance and one for exit, with a seat for visitors and a railed space where they may stand without interfering with the children who use the room.

If possible, this room should be easily reached from the street without stairs or with but few. The entrance, however, should not be *directly* into the room.

Circulation Department, see Delivery Department.

Cleaner's Room. A room near janitor's with lockers, cupboards, etc., in which clothes, pails, mops may be kept.

Cleaning Device, see Vacuum Cleaning Apparatus.

Closets. Closets or cupboards for the storage of supplies, etc., should be provided in the various departments and work rooms.

Closets for janitor's brooms, mops, etc., together with a sink should be located on each floor.

Club Rooms, see Study Rooms.

Coal Bins. Coal bins of 200 tons capacity should be provided.

Coat and Parcel Rooms, Public. A room should be provided where coats, parcels, umbrellas, etc., may be checked.

This should be located near the main entrance.

If the auditorium is placed on the top floor a similar room should be located near it.

Committee Room, see Executive Offices.

Copying Room, see Writing and Copying Room.

Cork Carpet, see Floor Covering.

Dark Room, see Photographic Room.

Delivery Department. From this room the books for home use would be circulated, and borrowers would be allowed free access to the shelves.

This room should be easily accessible from the street without any, or, with but few stairs.

It might connect with the Children's Room, but it is not necessary that it connect with the Reference and Reading Rooms.

A collection of possibly 35,000 volumes of the most popular and standard books should be placed in a room arranged with wall shelving and stacks something like our branch libraries. This will not prevent readers from having access to other books under restrictions.

Space should be provided in this room for a Registration Desk with a possible provision for a Union Register of all borrowers in the system.

Delivery Desks, see Furniture — Delivery Desks.

Delivery Station Room. The library system may, in the near future be extended, by the establishment of delivery and deposit stations throughout the city at which places borrowers may leave books in the morning and receive others later in the day. The books so left will be sent to the Central Library to be exchanged and a room should be provided where this work can be done.

This might be near or part of the Interchange Department, although this arrangement may not be feasible, as it is desirable that the Interchange Department should be located near the Cataloguing Department so that the Catalog may be consulted by it, and the Delivery Station Room should be on the ground floor to facilitate the handling of boxes, etc.

Depository Stock, see Stack Depository.

Driveway. A driveway for teams should run through from Flatbush avenue to Eastern Parkway and into the court, if one is contemplated. The Packing, Delivery Station and Book Order Department should open directly upon the driveway. If these are below the street level, a movable platform should be provided.

Dust Flues. Unless the vacuum cleaning apparatus is installed, dust flues and compressed air with openings on each floor of the Stack and in the principal rooms in the main building may answer all purposes.

Elevators. Elevators should run from the basement to the top floor. Two passenger elevators for the public, and one for the staff should be provided. A freight elevator large enough to hold two or three trucks (such as used at Montague) at a time will be needed. This elevator may open into a hallway or room adjoining the Cataloguing Department if such an arrangement works out better.

Book lifts should also be generously distributed.

If the auditorium is on the top floor one elevator should be so situated as to be convenient for those using the auditorium.

Employees, see Staff.

Engineers' Club. It is a question whether a meeting room should be provided for the exclusive use of this particular club, although it seems desirable that a place should be provided where this and clubs of a similar nature could hold meetings from time to time.

If a meeting room is provided for the Engineers' Club it should be adjacent to the Stack where books of a scientific nature are stored.

Engineer's Rooms. There should be two connecting rooms for the use of the Chief Engineer; one to be used as an office, possibly containing closets for the stowing of supplies; and the other to be equipped as a work room with work bench, forge, anvil, etc.

These rooms should be separate from the Boiler Room.

Entrances. Should be provided on the front and sides of the building for the public, and one in the rear for freight, etc.

A separate entrance should also be provided for the Staff.

Executive Offices. This suite of offices consists of the following rooms:—

Trustees' Room.

Committee Room.

Librarian's Public Office.

Librarian's Private Office.

Librarian's Secretary's Office.

Stenographers' Room.

Assistant Librarian's Office.

Supt. of Branches.¹

Finance Department (Here or on top floor).

¹ The offices of the other superintendents are directly connected with their respective departments.

The rooms in this group might be arranged similar to the offices in large business houses with a central waiting room.

The Trustees' Room and Committee Room should adjoin and be connected with large folding doors. There should be an ante or waiting room. Also lockers, hat boxes, etc. Toilet and Bath Room should also be provided, as at Boston.

The Librarian's Private Office should connect directly with the Trustees' and Committee Rooms.

The Librarian's Public Office might also serve as a waiting room for the Trustees' and Assistant Librarian's Offices.

The Librarian's Room should be easily accessible to the public and as near as many departments of the library as possible.

Exhibition Room, see Auditorium.

This room might be made by so arranging certain rooms, such as the Art Book, Manuscripts, Music, Photographic Rooms, etc., that they could be converted into an exhibition room at any time. (This is the better arrangement). Exhibitions of books, manuscripts, prints, etc., would be held in this room.

Finance Department, see also Executive Offices.

This is intended for the offices of the Treasurer and his assistants. Space should be provided for three or more clerks, with possibly a small separate room for the Treasurer.

A vault should be located in this department for the storage of documents, bills, etc.

This need not be a part of the Executive Offices, but may be located on the top floor.

Fine Arts Room, see Art Book Room.

Fixed Furniture, see Furniture.

Floor Covering. Rubber or cork carpet may be used, but these should not be put over tiling.

Floors. The kind of flooring for each room should be indicated by the Architect. Noiseless floors should be placed in all public rooms.

Floors, Height of. Floors of the main building should coincide with the level of the floors of the book stack, making the height about 15 feet or two stacks floors high, or in that proportion.

Floors in the Stack Building should be $7\frac{1}{2}$ feet between centers, and should connect with the floors of the main building.

Foreign Book Collection. The collection of books in foreign languages for distribution among the branches would be located on one of the floors of the Book Stack, preferably that nearest the office of the Interchange Department. Provision should be made for about 35,000 volumes.

Furniture -- Fixed and Movable. Specifications for the furniture required will be furnished later.

Garage. A room of about 400 square feet should be provided for the storage of library automobiles and equipped with machinery to charge electric vehicles. If space permits, it might be advisable to arrange a part of this room for the convenience of automobilists who use the library.

Heads of Departments, see Superintendents of Departments.

Heating Plant. As this plant cannot be located in a separate building it should be as nearly isolated as possible. It should be so constructed that there will be ample room for the handling of all tools, especially while working at the boilers.

Height of Floor, see Floors, Height of.

Information Desk. Space should be provided for an information desk if possible near the main entrance, or near the Reference and Delivery Departments, if they are quite near together.

Interchange Department. This department, which has charge of the interchange of books among the branches, should have an office for superintendents and assistants near or connected with the Traveling Libraries Department.

It should also be near or easily connected with the Official or Public Catalog and the Book Stack.

Janitor's Living Rooms. It is desirable, if space permits, that five or six living rooms similar in arrangement to a small apartment be provided for the janitor so that he may be in the building at all times.

These rooms should be located on the top floor.

Janitor's Rooms. A work room containing lockers, and closets for the storage of necessary tools should be located in the basement for the use of the janitor. An office for his use might also be provided.

These rooms should be near the Stock and Store Rooms and the Supply Department.

Lavatories, see Toilets.

Lecture Room, see Auditorium.

Librarian's Office, see Executive Offices.

Librarian, Assistant, see Executive Offices.

Library for the Blind. This is intended for the use of the blind readers and their guides. Provision should be made both for the delivery of books for home use, for reading in the library and for "readings." A small lecture room separated from the Delivery Room should be provided for the latter purpose.

The blind borrowers would be registered at this department rather than at the General Registration Desk.

The best location for this department is on the ground floor, although it may be placed on the top floor. It should be located near a stack accommodating 15,000 volumes.

This is perhaps the one department of the library which might, if necessary, be located at some branch, possibly Montague — instead of in the Central Building without affecting seriously other departments.

Library of Congress Cards, see Cataloguing Department.

Lighting Plant. Even if the library does not install its own lighting plant, space should at least be provided for it in the sub-basement.

Wherever table lights are used as probably in the Reference and Cataloguing Departments, they should be movable and so arranged that they will not get in the way of readers' feet.

So far as possible, general illumination is better than individual lights.

Little Used Books, see Stack — Depository.

Lockers. Clothing lockers, open and well ventilated, with shelves for hats, should be abundantly provided.

Lockers for men and women should be located near the staff entrance, and in addition, a few lockers should be provided in each department.

The lockers should also be near the service elevator. The quarters might be divided so to partially separate men, women, boys and girls.

Lunch Room for Staff, see Staff Lunch Room.

Lunch room — Public, see Public Restaurant.

Magazine Room, see Periodical Reading Room.

Main Reading Room, see Reference Room.

Manuscript Department. Room where valuable manuscripts would be kept. It might be near Map or Art Book Room and form one of the latter suite.

Map Room. Provision should be made in this room or the convenient handling of maps of various sizes and kinds.

This should be near the Reference Room for the sake of supervision.

Mechanical Service and Equipment, see Book Carriers, Telephones, etc.

Music Room. Provision should be made here or in a nearby Stack for 15,000 bound volumes of books about music, and for the musical scores which will be placed flat on shelves or in drawers.

(It might form one of the suite with the Art Book Room, etc.) The circulation of books from this department might be from the room itself rather than from the Main Delivery Desk.

Adjoining should be a piano room with thick walls to deaden sound.

Newspaper Reading Room. If out-of-town newspapers are supplied a larger room will be needed than as though only local papers are taken. (It is a question whether it is best to supply local papers at all). In any event the papers will be in newspaper files on regular racks placed on the walls or separate stands. No shelving (unless for local papers) need be provided here, but in an adjoining room the back numbers will be made accessible.

This room should be on ground floor with separate outside entrance if any papers are taken.

The bound volumes of newspapers take up much room and ample space should be provided in adjoining Stack so that they might be placed flat on roller shelves and provision made for 5,000 volumes and growth for twenty-five years.

Open Shelves, see Delivery Department.

Order Department, see Book Order Department, see also Supply Department.

Order and Receiving Room, see Book Order Department.

Packing Room. Books are received here from the Cataloguing Department and sent out to the Branches.

It should be on the ground floor near the Book Order and Supply Departments and contain bins for at least forty branches, so that when books and supplies are to be sent out they may be placed in specific places preparatory to being shipped, and thus facilitate the distribution of everything to branches.

The bins might be on rollers or tracks unless it is found better to make them permanent and use ordinary trucks around the room.

Parcel Room, see Coat Room.

Patent Room. All reports and specifications relating to American and foreign patents belong in this room or adjoining Stack.

It should be near the Reference and Public Documents Rooms.

Provision should be made in the room itself for seventy-five or one hundred readers, shelving for the most used volumes, and near a stack to contain 20,000. Many of the specifications will be laid flat. Boston seems large enough if sufficient stack space is provided.

Periodical Reading Room. The current magazines will be placed on tables and racks, and the bound volumes of periodicals would be used in this room as well as in the Reference Room. It

should therefore be near stack with capacity of 50,000 volumes for bound periodicals. The room should be connected with or under the Reference Room, with stairs connecting.

If found best to locate this room elsewhere it may be placed near newspaper room and made accessible from street.

A room adjoining would have shelves and cases for the unbound back numbers as in Newark.

Photographic Room. A place for taking pictures, consequently a "dark room," should adjoin.

It might be in attic or one of the Art Book suite, but in any event should be connected with Art Book Room so that large books may be easily conveyed by lift or otherwise from one to the other. Provision should be made for the storage of photographs. It should be well lighted as the walls may be used for the exhibition of pictures, etc.

The "dark room" should have plenty of storage space for slides and negatives.

Plot, see Site.

Pneumatic Tubes. Most liberal provision should be made for communicating between Delivery Rooms, Departments and Stacks. (See also Book Carrier).

Printing Plant. It is a question of policy whether a large or small plant should be installed. If former, there will always be trouble with labor unions, etc. Provision should at least be made for a few small presses to do such necessary work as printing bulletins, lists, catalog cards, etc.

Prints Room, see Art Book Room.

Public Catalog, see Catalog — Public.

Public Documents Room. It is intended to provide for perhaps fifty readers and have a near Stack accommodation for all public documents, both national and state. This room might be near the Patents Room and Reference Room.

Public Reception Room. Part of Public Telephone and Public Stenographer's Room might adjoin an "Emergency Hospital," as suggested by Dr. Backus.

See also Writing and Copying Room, Public.

Public Restaurant. If this could be provided for in connection with staff lunch room it would be desirable so that all-day students could obtain lunch.

Public Telephone, see Telephone, Public.

Public Toilet Rooms, see Toilet Rooms, Public.

Radiators. These might be placed inside the walls *without taking up room or shelving space*, but of course accessible by taking

out division of shelving, or radiators might form a base 10 inches to 14 inches from floor under book cases — if not too hot

Rare and Restricted Books Room. Here would be kept the precious books. It is essential that the vault run through this section. Rare books and prints would be preserved and displayed here.

It should possibly be part of Art Book suite.

Reading Rooms, see Reference Department and under different headings, as Periodical Reading Room, Technical and Scientific Periodical Room, etc.

Receiving Room, see Book Order Department; see also Packing Room

Reception Room, see Public Reception Room.

Reference Department. This room will serve for general and reference purposes, access being had to as many of the departments and special collections as possible. For the sake of convenience and supervision the special collections might be grouped around this room.

It should be on the second floor, with large windows to about 4 feet of the floor. Seating capacity for from 450 to 600 readers should be provided. It may be found easy to place this room on the top floor with light from above, although such an arrangement does not seem desirable. This will be the largest room in the building.

The public catalog should be near by so that it might be used and supervised by the Reference Librarian.

A delivery desk must also be provided on the same floor as the Reference Department so that the serious student may have books used by him in the Reference Department charged without being obliged to go into the Delivery Department. This desk may be located in the Reference Room, or it may be possible to locate it in the Public Catalog Room so that the orders of those consulting the Catalog may be sent directly to the Stack and the book be delivered to the borrower in that room. If the Public Catalog room is on the same floor as the Reference Room the books from that department could be sent to the Delivery Desk in the Public Catalog Room.

It is desirable to use the same Delivery Room for charging books from both Reference and Delivery Departments.

Registration Room. This is where the record of the individual is kept. If on Brooklyn plan only a few cases will be necessary, but if on Boston plan where there is a Central Registration more space will be necessary.

In any event it should be in or near the Delivery Department.

Repair Room. This is where books are repaired by the staff. It should be in the basement and near the bindery, and better connect with it.

Repository for Little Used Books, see Stack Depository.

Restaurant, see Public Restaurant.

Restricted Books, see Rare and Restricted Books.

Roof. Avoid skylights as much as possible, as the best of them will leak.

Rubber, see Floor Covering.

Safes, see Vaults.

Scientific Periodical Room, see Technical and Scientific Periodical Room.

Screens. Window screens should be provided to exclude dust, flies, mosquitoes, etc.

Service Stairs, see Stairs.

Shades. Should be provided for all windows.

Shelving. It seems best to leave the matter of shelving for the different rooms until a conference can be had with the Architect regarding the dimensions and location of the different rooms.

Site. The site is a quadrilateral, measuring 69 feet 8 inches on the Plaza, 332 feet on the Parkway, 486 feet 0 inches along the Reservoir fence and 498 feet 4 inches along Flatbush avenue.

Special Collections, see Bell Collection, Manuscripts, Rare Books, etc.

Special Study Rooms, see Study Rooms.

Stack. Accommodations should be provided for 1,500,000 or 2,000,000, as suggested by Prof. A. D. F. Hamlin. Estimates may be based on an allowance of eight volumes to the running foot, except where reference books and art books are to be shelved, when not more than six volumes should be allowed. It should be in the rear of building if natural light is desired or in the *centre* if electric light can be provided. In the latter case all of the outside space could be utilized for rooms. Attention is called to the fact that Boston, New York and the John Crerar Library, Chicago, have found artificial light for stacks sufficient.

It goes without saying that this of all parts of the building should be fireproof, with emergency fireproof doors between this and the main building.

Each stack story will be 7 feet to $7\frac{1}{2}$ wide, in the clear, the architect to name, when submitting the plans, the particular stack to be used. No stack should be more than 7 feet high, 9 or 12 feet long; 8 inches deep, if single, or 16 inches deep if double, back to

back; 12 inches if reference. The aisles should be 3 feet wide, with side aisles 3 to 4 feet wide along the walls.

Provision should be made for the maximum capacity indicated and the Architect should show how the stack could be extended to serve for double the capacity.

Under shelving will be indicated the *wall capacity* desired.

Stack—Depository. When opportunity offers, purchases of books are made from second-hand dealers and others even if not needed at the time. A stock in trade is thus formed and orders received from Branches are filled here whenever possible. These books may be stored in the Stack near the Book Order Department, and accommodation should be provided for 35,000 volumes.

Books seldom called for or little used should also be housed in the Depository Stack. Space should be provided for 30,000 volumes.

The Depository Stack might be placed underneath the street level as has been done in Vienna. At least three stack floors could thus be obtained.

Staff Rooms. Under this head should be included all rooms, other than work rooms, used by the Staff. It is likely that 150 - 250 employees will have places in the Central Building, and it is essential that adequate provision should be made for male and female adult employees, messengers, (boys and girls) janitors, cleaners, etc.

A separate entrance should be provided for the staff and lockers for their use as indicated under that heading.

The following rooms should be provided, Staff Lunch and Sitting Rooms, with butler's pantry and kitchen, and a special room for meetings of the Staff. These may be located in a mezzanine floor or be placed in the basement or top floor. They should, however, be so situated as to be easily accessible from as many departments as possible so that assistants will not waste time in going to and fro. Private stairs may be provided as in the Newark Public Library.

Staff Lunch Room. If possible the Lunch Room should be divided so that the Superintendents of Departments could lunch together without interfering with the scheduled hours of the balance of the Staff.

Such an arrangement would make it possible for the Superintendents of Departments to discuss library problems while at lunch.

If two Lunch Rooms are provided a large butler's pantry should adjoin each room. These would contain cupboards, closets, sinks, refrigerators, gas stoves, china closets, etc., so arranged that each assistant could have her own things.

If a Public Restaurant is planned, the kitchen of that might be connected with the Staff Rooms so that the Staff as well as the public might be served from it.

Staff Meeting Room. Here the members of the whole staff would meet once a month for the regular business meetings, and possibly oftener, to talk over matters pertaining to the interests of the institution. The attendance might be from 100 to 200.

Possibly these meetings could be held in the Apprentice Class Room. If a separate room is provided it should be in combination with the other Staff rooms.

Staff Sitting Room. A comfortable place for the assistants to rest in after lunch should adjoin the Lunch Rooms. The Sitting and Lunch Rooms should be so connected that the three could be thrown into one.

The Sitting Room would also be used in cases of temporary illness, and should have couches and ordinary medical appliances.

Stairs. None should be circular. This point cannot be too emphatically indicated.

So far as possible all stairs should be *inside* the building.

Easy risers — possibly not more than 4 inches are desirable.

Separate stairs should be provided for Staff, and when possible the different departments should be connected by private stairway, this to insure easy and quick communication between different floors and departments.

Standard Library. This consists of a collection of the best books as introduced by Mr. Foster of the Providence Public Library. It would contain books in best editions which would be recommended for purchase by private buyers. It could be placed in one of the study rooms or better in Reference or Delivery Room, but it should be capable of supervision.

Statistical Department. This forms one of the Special Reference Rooms where books on statistics, economics, etc., would be shelved.

Stenographer's Room, Public. For the use of those who wish to dictate letters or addresses.

It might be near the Public Telephone or Writing and Copying Room.

Stenographers' Room (Official), see Executive Offices.

Stock Room (Books), see Stack, Depository.

Stock Room (supplies). The ordinary Branch supplies such as printing, stationery, brooms, soap, etc., are bought in quantities and stored at the library. Branch "wants" are thus quickly and cheaply supplied.

It could be under or near the Supply Department (which see). Closets, cupboards and shelving in plenty, with special arrangement as to "bins" provided.

Storeroom (supplies). This is intended for brooms, pails, etc., used by janitor about the Central Building. It is not the same as the Stock Room where supplies for the whole system are kept, but may be near it. Several closets for such purpose should also be placed on each floor.

Storeroom for Little Used Books, see Stack, Depository.

Study Rooms. These are for classes or individuals studying particular subjects, and who need quiet and seclusion. Sometimes it will be used by literary societies like a Browning Club, Shakespeare Club, etc.

They should be adjacent to and form a part of the Reference Room. Although only three or four are mentioned more can be used, and they might be larger or smaller than dimensions given.

Superintendents of Departments. They are Superintendent of Cataloguing Department, Superintendent of Children's Work Superintendent of Book Orders, Superintendent of Supplies.

The Architect suggests that these might be grouped as in a business house, with central waiting space and with access to each other. Perhaps a better plan would be to have the office of each Superintendent near his own department.

The office of the Superintendent of Branches would be connected with the Executive suite.

Supply Room, see Stock Room (supplies).

Supply Department. The Superintendent of this Department makes the purchases for all the branches and must therefore meet buyers as well as Branch Librarians. There should be an outer and inner office. A store room should be provided on this floor for the storage of stationery, etc. This department should have outside entrance so that teams could deliver goods direct.

Technical and Scientific Periodical Room. Will contain current scientific periodicals and should have bound volumes (20,000) of same on shelves in room or in stack nearby.

It might be near Reference Department or the Periodical Reading Room.

Telephones, Official. Long distance telephone, with switch board should be installed also a complete system connecting all departments.

Telephone, Public. Booths for the use of the public should also be provided.

The switch board for both the public and official telephones may be the same and this may be located in the Public Reception and Telephone Room on the ground floor, or the switch board of the Official Telephone may be located in the Repair Room.

Toilets. Ample provision should be made for public and private toilets for both sexes, but the public toilets should be at a distance from any outside public entrance. Private toilets should be on each floor, and for Trustees and Librarian. An attendant will be needed in each public toilet room.

Traveling Libraries Department. Cases of books are sent from here to schools, shops, societies, clubs, etc. An office for the Superintendent of this department and his assistants should be located near the Interchange and Foreign Book Departments. Stack accommodations for 50,000 volumes should adjoin the office. It should also be near the freight elevator.

Treasurer's Office Department. Space should be provided for Treasurer who is a member of the Board of Trustees.

Unpacking Room, see Book Order Department, also Supply Dept.

Vacuum Cleaning Apparatus. The building should be equipped with the best cleaning system.

Vaults. Various records such as those of the Board, Librarian, Accession Books of Cataloguing Department, expensive and rare books and manuscripts would be kept in the vaults.

They should be at least 8 x 10 feet in the clear and extend from the basement to the top with openings on each floor into such rooms, if possible, as Trustees', Librarian's, Cataloguing, Art Book, etc.

Ventilation, see also Heating.

The most perfect system of ventilation should be introduced and ought to be both direct and indirect. Particular attention should be paid to the Reference Department, Delivery Department, Children's Room, Periodical and Newspaper Reading Rooms and Stack. As it cannot be in a separate building it, as well as the Heating Plant, should be in sub-basement.

Water Supply. If there is likely to be trouble from low pressure an engine should pump water into a tank placed on the roof. Hot and cold water for cleaning should be liberally supplied on each floor for janitor service and for staff.

Windows. In the Stack they should start from the ceiling and go to the floor and be placed opposite every aisle.

In the main rooms they need not come within 5 feet of the floor unless an exception is made in the Trustees', Librarian's, Reference and Periodical Reading Rooms, and Study Rooms.

In the Cataloguing Department they should begin 4 feet from floor and extend to ceiling.

Work Room, see Repair Room.

Writing and Copying Room (public). This is a place where readers may use ink and copy from books, or do general writing.

It may be near Stenographers' room or Reference Department, although the latter seems to be the best placed.

INDEX

Acetylene gas, 201.
Adams, Herbert B., cited, 59, 96,
130, 325.
Administration rooms, 64, 233,
361.
Advice, free, 145.
Ahern, Mary Eileen, 342.
Air, 308, 360.
Alcoves, 7, 13, 48, 49, 55, 57, 61,
189.
Alterations, 73, 99.
Altering new buildings, 74.
Amateurs dangerous, 120.
Ancient History, 4, 13.
American Institute of Architects,
145, 149, 154.
American Library Association,
14, 15, 96.
A. L. A. Com. on Ventilation,
etc., 212, 308.
A. L. A. Tract No. 4, 36, 38, 41,
277.
American Library Institute, 302.
Andrews, Clement W., 205, 207,
307, 332.
Annual outlay, limiting, 104.
Annual Register, 301.
Ante-room, librarian's, 240.
Antiquarian libraries, 59.
Apprentice class, 373.
Approaches, 172.
Arabs, 7.
Architect, Dedication, 32, 146,
150, 153, 213.
Architectural competitions, 154.
Architectural Review, 10.
Architectural styles, 117.
Architecture, 29, 31, 119, 329.
Areas, 224, 373.
Art galleries, 72.
Art rooms, 329, 333, 374.
Asinius Pollio, 4.
Aspect, 194.
Assyria, 3, 8.
Astor Library, N. Y., 13, 131.
Athenæums, 49.
Attics, 182.
Auditorium, 374.
Augustus, 4.
Automobiles, 260.
Barometers, 354.
Basement, 40, 180, 340.
Begin early, 100.
Belden, Charles F. D., 37.
Bells, 374.
Benedict, Saint, 7.
Bernardiston, Mass., P. L., 41.
Bethnal Green (Eng.) L., 299.
Bibliothèque St. Geneviève, 15,
92.
Bicycles, 260, 375.
Billings, Dr. John S., 177, 212.
Binding, 253, 375.
Birmingham (Eng.) P. L., 98.
Blades, Wm., 219.
Blame for faults, 35.
Blind, The, 321, 381.
Bluemner, Oscar, 39, 40, 89, 93,
181, 186, 180, 189, 248, 295,
307.
Bodleian L., Oxford, 9, 10, 296.

Bolton, C. K., 337.
 Bookcases, closed, 272.
 dwarf, 267.
 radial, 274.
 rolling or sliding, 75, 299.
 Book Order Department, 375.
 Book storage, 261.
 Books of odd sizes, 267.
 Bookworms, 219.
 Boston Herald, 15.
 Boston Public Library, 13, 15,
 32, 92, 96, 114, 224, 230,
 280.
 Boston School Doc. No. 14,
 1907, 115, 205, 207.
 Boston Transcript, 88.
 Bostwick, Arthur E., cited, 17,
 27, 35, 65, 68, 70, 80, 148,
 155, 186, 194, 197, 231, 235,
 241, 247, 251, 252, 254, 256,
 257, 274, 310, 317, 318, 319,
 321, 323, 324, 325, 327, 330,
 331, 332, 333, 342, 344, 345,
 349.
 Bowdoin College Lib., 75, 301.
 Bowerman, George F., 75.
 Boxford, Mass., P. L., 41.
 Branch libraries, 67.
 Branches, service of, 256.
 Branford, Conn., P. L., 131.
 Brick, 41.
 Brigham, Johnson, 57.
 British Museum, 3, 10, 225, 268,
 299, 301, 345.
 Brochure Series, cited, 293.
 Brookline, Mass., P. L., 105.
 Brooklyn, N. Y., P. L., 69, 176,
 226, 242, 367.
 Brown, Jas. Duff — *see* Duff-Brown.
 Brown University Library, 105,
 156, 205, 246, 287.
 Buckland, Mass., P. L., 41.
 Building Acts, English, 175.
 Building committee, 35, 136,
 152.
 Bulletin boards, 352.
 Burgoyne, F. J., cited, 23, 25,
 27, 92, 93, 95, 98, 114, 157,
 167, 190, 197, 198, 200, 230,
 259, 268, 296, 299, 315, 316
 320, 330, 354.
 Business libraries, 52.
 California, University of, 156.
 Canfield, Dr. James H., 60, 134.
 Canterbury, The Prior's Chapel,
 8.
 Capacity of shelves, 277, 298.
 Carnegie, Andrew, 15, 38, 67,
 102, 131.
 Carr, Henry J., 88, 139, 144,
 345, 348.
 Carrels, 6, 61, 107, 286.
 Carrere and Hastings, 367.
 Carriers, mechanical, 62, 118,
 230, 375.
 Catalog cases, 64, 244, 350, 377.
 Cataloguing rooms, 246, 376.
 Ceilings, 183.
 Cellars, 40, 182, 328.
 Central spaces, 224.
 Century Dictionary, 29.
 Chairs, 346.
 Champneys, A. L., cited, 13, 22,
 27, 85, 86, 92, 95, 103, 113,
 114, 115, 153, 157, 173, 175,
 186, 189, 193, 208, 210, 228,
 239, 249, 253, 260, 275, 284,
 291, 300, 304, 314, 317, 319,
 320, 332, 333, 334, 337, 339,
 341, 344, 345.
 Change, provision for, 166.
 Chicago World's Fair, 118.
 Children's room, 318, 377.
 Christiania Fjord, 23.

Christ's Hospital, London, 8.
Cincinnati Public Library, 71.
Circular stairs, 177.
Cistercians, 7.
City Club, Chicago, 207.
Clairvaux, 8.
Clark, George T., cited, 220.
Clark, John Willis, cited, 3, 4, 6,
8, 9, 10, 115, 194, 273, 286,
295.
Class rooms, 270, 324, 333.
Classes of libraries, 37, 47.
Classical style, 117, 118.
Claude & Starck, 30.
Clay's School Buildings, cited,
319.
Cleaning, 217, 252.
Cleanliness, 217.
Clerestories, 200.
Clocks, 354.
Closets, 226, 377.
Club libraries, 47.
Coat rooms, 257.
Cole, George Watson, 256.
College libraries, 61.
Color, 115, 203, 293.
Columbia University, 177.
Columns, 109.
Comfort rooms, 257.
Competition, New York, 359.
Competitions, architectural, 86,
90, 154.
Competitions, judges of, 158.
Concentric cases, 274.
Concourse, 200.
Concrete, 38, 42, 220.
Concrete examples 357.
Conflicts, 32.
Congress, Library of, 194, 195,
197, 225, 226, 231, 247, 292,
328, 330, 332, 336, 337.
Congressional Documents, 302.
Contests, 34.
Conversation rooms, 338.
Coolidge, Charles A., 147, 206.
Copying blindly, 92.
Cornell University Library, 345.
Cornices, 109.
Correlation of parts, 181.
Cost, 102, 104.
Cost of running, 85.
Cotgreave, Alfred, cited, 95.
Courtyards, 224.
Coutts, H. T., 254.
Cravath and Lansingh, cited,
203.
Crerar Library, Chicago, 205.
Crunden, Frederick M., cited,
126.
Cubic contents, 103.
Cubicles, 285.
Curtains, 194.
Cutter, Charles A., 92, 189, 285,
325.
Cutting down cost, 104.
Dampness, 8.
Dana, John C., cited, 17, 65, 98,
99, 107, 269, 271, 319, 327.
Dark Ages, 77.
Dark places, 226.
Dark stacks, 295.
Darlington, Wis., P. L., 30.
Decoration, 114.
Delassert, 11.
Delivery desk, 248, 348.
Delivery room, 248, 225, 378.
Delivery station room, 378.
Department libraries, 60, 61.
Departments, 233.
heads of, 240.
Development, 10.
Dewey, Melvil, 58, 176, 193,
263, 265, 266, 268, 307, 325.
Dial, Chicago, 28.
Diffused light, 115.

Domes, 75, 109, 187.
 Donors, 130.
 Don't build too soon, 99.
 Don't put off too long, 100.
 Doors, 173, 174.
 Doyle, —, 254.
 Drains, 215.
 Dry-rot deadening, 121.
 Duff-Brown, James, cited, 10, 11,
 27, 85, 91, 95, 103, 113, 137,
 139, 141, 143, 157, 175, 239,
 250, 253, 256, 260, 274, 300,
 309, 314, 315, 319, 320, 321,
 323, 324, 331, 332, 334, 337,
 341, 344, 345, 348, 354.
 Duplicates, 328.
 Durham, 6, 288.
 Dust, 217, 219, 379.

Eastman, Wm. R., cited, 36, 38,
 43, 84, 85, 93, 95, 96, 97,
 112, 149, 155, 184, 209, 258,
 265, 274, 344, 345.
 Economy of expert advice, 87.
 Economy paramount, 83.
 Education, 332.
 Educational libraries, 60.
 Edwards, Edward, cited, 13, 130,
 345.
 Electric light, 202.
 fixtures, 207.
 switches, 203.
 systems, 203.
 Elevators, 220, 228, 291, 379.
 Eliot, President, 171.
 Elmendorf, Theresa West, 142,
 155.
 Encyclopædia Britannica, 11th
 ed.; cited, 22.
 Endowed libraries, 65.
 Enemies of books, 219.
 Engincer, 379.
 England, 77.

Enlargements, 73.
 Entrances, 172.
 Epilogue, 404.
 Episcopal Theological School,
 Cambridge, Mass., 170, 287.
 Equipment, 341.
 Escorial, 8, 10.
 Evolution of library buildings, 3,
 90.
 Exceptional cases, 71.
 Executive offices, 369, 379.
 Exhibitions, 334, 364, 380.
 Expert advice, 87.
 Experts, 359.
 Experts' fees, 86.
 Exterior growth, 169.
 Extras, 162.
 Extravagances, 86.

Faults to be looked for, 109.
 Faunce, Dr. W. H. P., 147.
 Features, 163.
 Fees, architects', 144, 145, 161.
 Fees, library advisers', 145.
 File your plans, 171, 216, 359.
 Fire, 219.
 Fire buckets, 221.
 Fireplaces, 209.
 Fireproof vaults, 223, 390.
 Firmitas, 20.
 Firmitas, Utilitas, Venustas,
 Title, 19.
 Fittings, 354.
 Fixtures, electric, 207.
 Fletcher, Wm. I., cited, 10, 27,
 65, 66, 85, 88, 91, 130, 141,
 169, 181, 189, 194, 263, 278,
 278, 281, 285, 337, 344.
 Floor arrangements, 370.
 cases, 273.
 coverings, 185.
 Floors, 185, 361, 380.
 Folding press, 300.

Folios, 267.
Forecasting the years, 16.
Foster, Wm. E., 88, 154, 190,
278, 311, 346.
Fourth floor, 372.
France, National Library of, 11.
Frankness among librarians, 110.
Free advice, 137.
Freetown, Mass., P. L., 41.
Fresh air, 108.
Front door, 173.
Furniture, 341.

Galleries, 189.
Garage, 381.
Garnett, Dr. Richard, cited, 3, 40,
170, 232, 299, 300, 301, 330.
Gas, 201, 219.
Genealogical libraries, 59.
Gentleman's Magazine, 301.
Gladstone, Wm. E., 47, 301.
Glare, 194, 201.
Glass, 198, 221.
 ribbed, 294.
Glasgow (Scot.), 98.
Gloucester Cathedral, 288.
Good advice, 139.
Government libraries, 56.
Grades of libraries, 36.
Grandeur, 22.
Grant's tomb, 150.
Grecian style, 118.
Green, Bernard R., 139, 147,
193, 197, 230, 279, 297, 330.
Green, Edward B., 25, 97, 134,
156.
Ground floor, 371.
Growth, limitations on, 170.
 provision for, 169.

Half-hour reading, 313.
Hallam, —, 141.
Halls, 175.
Hamburg, 23.
Hamlin, Prof. A. D. F., 34, 84,
367.
Handrails, 177, 319.
Hansard's Debates, 301.
Hare, H. T., 269, 309.
Harvard College, 23, 126.
Harvard Law School, 285.
Harvard Univ. Lib., 12, 21, 280,
281, 285, 290, 301, 303.
Head room, 266, 307.
Health, 192.
Heat, 108, 219, 360.
Heating, 209, 296, 381.
Historical libraries, 56, 58.
History, ancient, 4.
 dawn of, 3.
 mediaeval, 6.
 modern, 10.
Hodges, N. D. C., 217.
Hot water heating, 211.

Ideal in planning, 79.
Illumination, N. Y., 201, 208,
382.
Indirect lighting, 204.
Information Room, 249, 338, 381.
Institution, The, 133.
Institutional libraries, 49, 50.
Interchange department, 381.
Interior growth, 169.
International Library Conference,
 cited, 39, 316.
Introduction, 1.
Ireland, 7.
Irrepressible conflict, 25.
Isadore, Bishop of Seville, 115.
Jackson, Annie B., 73.
James, Hannah P., 313.
Janitor, 251, 381.
Jenner, Henry, 300.
Jevons, Stanley, quoted, 126.

John Crerar L., Chicago, 205.
 John Hay Library, Brown Univ., 105, 156, 205, 246, 287.
 Jones, Gardner M., 290.
 Judges of Competitions, 158, 359.
 Judgment of the public, 127.
 Keene Valley, N. Y., P. L., 209.
 King's College, Cambridge, 12.
 Koch, Theodore W., cited, 16, 43, 95, 283, 287, 308.
 Koopman, H. L., 205.
 Lamm, E. N., 155.
 Lane, Wm. C., 301, 302, 303.
 Lane and Bolton, 337.
 Lavatory, 258.
 Law libraries, 54, 58.
 Lectures, 333.
 Ledges, 263, 291.
 Leeds (Eng.) P. L., 98.
 Leipsic, 23.
 Leopoldo della Santa, 11.
 Leyden, University of, 10, 273, 280.
Librarian, The (magazine), cited, 92, 95, 185, 212, 300, 301.
 Librarian's room, 239, 371, 379.
Library, The (magazine), cited, 231, 301.
Library Adviser, 148, 152.
Library Architect, 42.
Library Assistant, The (magazine), cited, 104, 315, 316, 332.
Library Association of the United Kingdom, 299.
Library Association Record, cited, 67, 93, 144, 167, 189, 192, 198, 221, 253, 254, 256, 261, 269, 301, 309, 317, 320, 323, 325, 330.
 Library Bureau, 96, 139, 342.
Library Chronicle, cited, 300.
Library Journal, N. Y., cited, 14, 15, 21, 28, 34, 39, 57, 58, 61, 63, 67, 69, 74, 84, 85, 88, 89, 93, 97, 99, 105, 112, 134, 139, 141, 142, 144, 147, 148, 154, 155, 156, 161, 176, 189, 193, 197, 200, 208, 235, 256, 265, 274, 278, 279, 280, 292, 297, 307, 310, 313, 319, 325, 332, 337, 344, 345, 348.
Library of Congress — *see* Congress.
Library Notes (magazine), cited, 99, 192, 263, 265, 268, 299, 301.
 Library science, 17, 27.
Library World, cited, 254.
 Life of a library building, 97.
 Lifts, 220, 228, 291 379.
 Light, 108, 109, 191, 201, 249, 308, 359, 382.
 artificial, 201, 382.
 natural, 193.
 reflected, 115, 203.
 Light-reading room, 305, 313.
 Lighting, indirect, 204.
 Lightning, 221.
 Little, George T., 75, 301, 302, 303.
 Local history, 287.
 Local librarian as expert, 141, 152.
 Local literature, 323.
 Lockers, 382.
 Lunch rooms, 257, 387.
 Lymburn, James, 300, 304.
 Magazines, 313, 314, 383.
 Magnusson, 11.
 Main floor, 371.

Manchester (Eng.) P. L., 98.
 Manuscripts, 382.
 Maps, 331, 382.
 Marble, 23.
 Marks, L. B., 208.
 Martson's Mills, Mass., P. L., 41.
 Marvin, Cornelia, cited, 30,
 36, 38, 42, 43, 89, 95,
 96, 97, 103, 105, 116, 147,
 148, 155, 169, 179, 180, 186,
 194, 248, 254, 258, 259, 265,
 266, 269, 271, 285, 334, 339,
 342, 345, 353.
 Massachusetts Report of 1899,
 cited, 40, 41, 95, 130.
 Massachusetts State Library,
 289, 336.
 Material, 23, 61, 117, 177, 220,
 360.
 Matthews, E. R. N., 251, 253,
 255.
 Mauran, John L., 89, 141, 155,
 161.
 Mayhew, H. M., 301.
 Mazarin, Cardinal, 9.
 Mechanical carriers, 62, 118,
 230, 375.
 Mechanical service, 370.
 Mediæval history, 6.
 Medical libraries, 52.
 Mendon, Mass., P. L., 41.
 Mercantile libraries, 49, 71.
 Merton College L., Oxford, 7.
 Mezzanine floors, 181, 372.
 Mice, 219.
 Middle of blocks, 87.
 Minimum buildings, 52.
 Model of plan, 162.
 Moderate and medium libraries,
 44.
 Modern history, 21.
 Monasteries, 6, 9.
 Mt. Holyoke College L., 190.
 Museums, 72.
 Music, 331, 382.
 Neglect, 219.
 Never copy blindly, 92.
 Newark P. L., 176.
 Newberry Library, Chicago, 11,
 278, 307.
 New York branch libraries, 69,
 71, 208, 317.
 New York P. L., 174, 177, 212,
 256, 295, 306, 359.
 Newspapers, 316, 383.
 bound, 336.
 Nineteenth Century (magazine),
 cited, 47, 301.
 North Adams, Mass., P. L., 73.
 North Carolina University L.,
 12.
 North Scituate, Mass., P. L., 41.
 Oil lights, 201.
 Olmsted, F. L., Jr., 367.
 Order of work, 159.
 Ornament, 109, 114, 128.
 Otis, W. A., 93, 117, 149.
 Our own era, 13.
 Packing room, 251, 383.
 Pamphlets, 335.
 Panelled ceilings, 183.
 Parliament, Library of, Ottawa,
 276.
 Partitions, 183.
 Passages, 175.
 Patent Office Gazette, 302, 303.
 Patent Office Library, London,
 300.
 Patents, 326, 383.
 Patton, N. S., cited, 25, 63, 80,
 139.
 Periodicals, 313, 314, 335, 383.
 Perkins, F. B., 305.

Personnel, 123.
 Philadelphia P. L., 67.
 Photographic room, 330, 365,
 372, 384.
 Photographs, 330, 374.
 Pilgrims, 11.
 Pisistratus, 4.
 Pite, Beresford, 24, 114.
 Pivot-press, 300.
 Place among buildings, 128.
 Plan inside first, 90.
 Plans, American, 95, 96.
 English, 95, 96.
 examining, 94.
 filing, 171, 216, 359.
 Plumbing, 215.
 Plummer, Mary W., 137.
 Pneumatic tubes, 384.
 Points of agreement, 13, 15, 16, 90.
 Poole, Dr. Wm. F., 11, 65, 80,
 92, 99, 138, 143, 268, 314,
 316, 322, 337,
 Poole's Index, 336.
 Poole plan, 11, 278, 304, 307, 322.
 Popular Science Monthly, cited,
 63.
 Porticoes, 109, 172.
 Portland, Ore., P. L., 254.
 Present, The, 16.
 Princeton University, L., 276.
 Principles of planning, 77, 79.
 Printing, 253, 254, 384.
 Prints, 329, 330.
 Prismatic glass, 194.
 Privacy, 189, 307.
 Private libraries, 47.
 Problem always new, 89.
 Proctor, Prof., 192.
 Professional libraries, 51.
 Proprietary libraries, 49.
 Protection from enemies, 219.
 Providence P. L., 190, 249, 278,
 338, 346.

Provincetown, Mass., P. L., 41.
 Ptolemy Philadelphus, 4.
 Public, The, 125.
 Public Documents, 57, 327, 384.
 Public judgment, 140.
 Public libraries, 65.
 Public Libraries (magazine)
 cited, 25, 39, 40, 63, 65, 80,
 89, 93, 97, 99, 134, 143, 149,
 155, 156, 180, 181, 189, 220,
 248, 254, 256, 257, 269, 283,
 295, 307, 332.
 Public Libraries 1876, cited, 80,
 88, 138, 182, 236, 247, 251,
 256, 264, 268, 280, 285, 310,
 313, 314, 316, 319, 324, 326,
 337, 342.
 Public photographing, room, 330,
 365, 372, 384.
 Public waiting rooms, 242.
 Puget Sound, 23.
 Quartos, 267.
 Queen's College L., Cambridge
 (Eng.), 295
 Quiet, 307.
 Radcliffe Library, Oxford, 11.
 Radial cases, 274.
 Radiators, 211, 384.
 Ranck, S. H., 39, 308.
 Rare books, 272, 302, 385.
 Reading, light, 313.
 serious, 306, 363.
 Reading-room, 62, 305, 362.
 Reading-rooms, central, 225.
 shelves in, 271.
 Redwood Library, Newport, 11.
 Reference room, 310, 385.
 Reformation, 9.
 Registration, 385.
 Reinick, Wm. R., 222.
 Report of Oculists, etc., 115, 205,
 207.

Rest rooms, 257.
Restaurant, 372, 384.
Revolving bookcases, 310.
Revolving doors, 173.
Richardson, E. C., 310.
Richardson, Henry H., 14.
Rochester, N. Y., Law Lib., 275.
Rochester, N. Y., P. L., 88.
Rolling cases, 299.
Roof, 109, 187, 220, 386.
Rooms, 179, 233, 362.
Rooms, alphabetical list of, 373.
 public, 362, 368.
 work, 369.

Safes, fireproof, 223.
Saint Charles College, La., 222.
Sainte Geneviève Bibliothèque, 15, 92.
Saint John's College, Cambridge (Eng.), 9.
Saint Louis Public Library, 71, 185, 206, 260, 325, 333.
Salem, Mass., P. L., 74, 200, 287.
Sanitary facilities, 259.
School libraries, 60.
Schoolhouse, 31.
Schuyler, Montgomery, 118.
Science, 326.
Scientific libraries, 51.
Scituate, Mass., P. L., 41.
Second floor, 372.
Selecting an architect, 146.
Seminar rooms, 60, 62, 63.
Serial sets, 335, 383.
Serious reading room, 306.
Service, 112.
Sewers, 215.
Shelf capacity, 277, 311.
 bases, 263.
 ledges, 265.
Shelves in reading rooms, 269.
Shelving, fixed or movable, 263.
 generally, 262.
 high or low, 266.
 wall, 271.
 wood or metal, 264, 282.
Site, 128, 163.
Size, 102, 104.
Sizes of books, 267.
Skylights, 199.
Sliding cases, 75, 299.
Small library buildings, 38, 42, 59.
Social law library, Boston, 54, 55.
Sorbonne, Library of, 194.
Southwick, Mass., P. L., 41.
Space, 309.
Special collections, 337.
Special libraries, 52.
Special rooms, 322.
Specialists, 208.
Spirit of planning, 79.
Springfield, Mass., P. L., 157, 185, 275.
Stack, 14, 45, 46, 61, 161, 222, 225.
 aisles, 289.
 broken floors, 289.
 capacity, 298.
 carrels, 286.
 dark, 288.
 details, 288.
 lighting, 292.
 location, 283.
 open access, 286.
 shell, 283.
 shelves, 292.
 stairs, 176, 290.
 towers, 297.
 use by readers, 284.
 windows, 294.
Stacks generally, 280, 361, 370, 386.

Stacks underground, 296.
 Staff quarters, 241, 243, 387.
 Stair landings, 177.
 treads, 176.
 Stairs, 109, 176, 290, 388.
 winding, 177, 246, 298.
 Standard Library, 190, 311, 388.
 Standpipes, 221.
 Stanley, —, 61, 105.
 State libraries, 56.
 State library commissions, 137.
 Steam heat, 211.
 Steel construction, 18, 29, 45.
 Stenographer's rooms, 243, 388.
 Steps, outside, 172.
 Stetson, W. K., 176, 235.
 Storerooms, 227, 388.
 Stories, 109, 179.
 Storm doors, 174.
 Stoves, 207.
 Straight, Maude W., 254.
 Study of libraries, 94.
 Study rooms, 69, 270, 324, 363,
 388.
 Sturgis, Dictionary of Architecture, cited, 39, 44, 117, 118,
 154, 198, 199, 283, 293.
 Suburban libraries, 70.
 Superintendents, 389.
 Supervision, 113.
 Supplies, 389.
 Sutton, Charles W., quoted, 67,
 256.
 Tables, 344.
 Tact, 81.
 Taj Mahal, 132.
 Talk, 339.
 Taps for cleaning, 218.
 Taste, 81.
 Telautograph, 232.
 Telephones, 62, 232, 389.
 Temperature, 212.
 Templeton, Mass., P. L., 41.
 Third floor, 372.
 Theological libraries, 52.
 Thermometers, 212, 354.
 Thoroughness, 81.
 Thrift, 81..
 Thwaites, Dr. Reuben G., 297.
 Time to build, 99.
 Todd, David P., 141.
 Toilet rooms, 259, 390.
 Top floors, 71, 180, 320.
 Traveling libraries, 256, 390.
 Trinity College L., Cambridge
 (Eng.), 9.
 Trinity College L., Dublin, 10,
 300.
 Trustees, 134.
 election of, 126.
 room, 237.
 Tubes, Speaking, etc., 62, 232,
 384.
 Tunnels, 231.
 Umbrellas, 345.
 Unassigned rooms, 339.
 Underdraining, 215.
 U. S. Educational Report (1892-
 1893), 256.
 U. S. Government libraries, 56.
 U. S. Navy Dept. library, 24.
 U. S. Public Libraries—*see* P. L.,
 1876.
 U. S. Supreme Court building,
 56.
 University libraries, 60, 75.
 Unusual sizes of books, 267.
 Use, Utilitas, 21, 27.
 Useful arts, 326.
 Utilizing every inch, 82.
 Utley, H. M., 39.
 Van Name, Addison, 168.
 Vatican library, 5, 47.

Vaults, 223, 390.
Vehicles, 260.
Ventilation, 108, 197, 209, 296,
 308, 390.
 by window-bar, 210.
Venustas, 22.
Vermin, 219.
Very large buildings, 45.
Vestibules, 173.
Visits to libraries, 94.
Vitruvius, 19, 20.

Waiting rooms, public, 242.
Wall shelving, 271.
Walls, 183.
Ware and Van Brunt, 280.
Warehouse for work, 253, 254.
Wash-bowls, 218.
Washington, George, quoted, 125.
Waste of space, 109.
Water, 219, 221. 390,
Webster's Dictionary, 288..
Wellman, Hiller C., 275.
Westbury, Mass., P. L., 41.
West Tisbury, Mass., P. L., 41.
What conflict is possible? 32.
What contest is likely? 34.
Where does the library come in?
 31.
Where lies the blame? 35.

Which should prevail? 152.
Whitney, James L., 193.
Whittington, Sir Richard, 8.
Widman, —, 222.
Wilson, R. E., 256.
Winding stairs, 177.
Window bar ventilation, 210.
Windows, 109, 196, 390.
 false, 295.
 true, 294.
Windsor, P. L., 332.
Winsor, Justin, 80, 92, 120, 247,
 251, 256, 280, 313, 324, 326,
 337.
Wisconsin Historical Society,
 59, 325.
Wise election of Trustees, 126.
Wolfenbuttel Library, 11.
Women's rooms, 320.
Wood as fuel, 209.
 for building, 23.
Woodbine, H., 261, 301.
Workshops, 31.
Wraps, 257.
Wren, Sir Christopher, 9.
Writing room, 391.
Y. M. C. A. libraries, 50.
Zutphen (Holland), 8.

Epilogue

The outline sketched in this volume should suggest, even to skimmers,—

That the business of planning a library is specific, technical and minute;—

That it is like the planning of other useful structures which can be spoiled by blunders of ignorance, or by sins done in the name of art;—

That it is folly to leave such serious work to tyros or dabblers,—even to architects who are amateur librarians;—

That a committee can direct, an architect can construct, but only a wise and mature librarian can plan a library where the staff can work, and where the readers can see, think and breathe.

